

Pennsylvania Water Environment Association **REGISTRATION PROGRAM**



Technical Programs have been approved by the PA DEP for Drinking Water & Wastewater Contact Hours.

PennTec 2019 • June 2-5, 2019

Penn Stater Conference Center Hotel, State College PA



PennTec 
2019 91st Annual Technical
Conference & Exhibition

CONFERENCE AT A GLANCE

(as of February 1, 2019)

Visit www.pwea.org for the most current program schedule.

Sunday, June 2

11:00am-3:00pm **Community Service Project**
3:00-5:00pm Registration Open

Monday, June 3

7:15am-5:00pm Registration Open
7:45-8:45am Continental Breakfast
8:30-11:30am **Students & Young Professionals (SYP) Plant Tour**
8:45-11:45am **Morning Technical Programs**
Biosolids
Collection Systems
Engineering
Utility Management
Workshops
PA DOT Flagger Certification
Securing Drinking Water & Wastewater Treatment Facilities
Wastewater Microlife Basics
8:45-11:45am
8:45am-4:30pm
1:00-4:30pm
9:00am-3:30pm **Operations Challenge**
10:15-10:45am Morning Break
11:45am-1:00pm Exhibit Hall Opens
Complimentary Lunch in Exhibit Hall
11:45am-1:30pm **SYP Summit**
12:30-1:00pm **PWEA Annual Business Meeting**
with Dessert & Coffee
1:00-4:30pm **Afternoon Technical Programs**
Biosolids
Collection Systems
Engineering
Utility Management
2:30-3:30pm Afternoon Break in Exhibit Hall
4:30-5:30pm President's Reception in Exhibit Hall
6:00-8:00pm **Annual PWEA Awards Ceremony and Reception**

Tuesday, June 4

7:00am-5:30pm Registration Open
7:30-8:30am Continental Breakfast in Exhibit Hall
8:00-11:30am **Morning Technical Programs**
Collection Systems
Engineering
Finance
Industrial Waste Pretreatment
Stormwater
Workshops
Distribution Systems
Wastewater Professionals Guide to Online Process Instrumentation for Biological Nutrient Removal Activated Sludge Monitoring Certification Exam Study Prep Course
8:00am-4:30pm
8:00am-4:30pm
8:00am-4:30pm
8:30-11:30am **Professional Wastewater Operations (PWO) Plant Tour**
9:30-10:30am Morning Break in Exhibit Hall
11:30am-1:00pm Complimentary Lunch in Exhibit Hall
Student Research Poster Presentations
11:30am-1:00pm **Women in Water Summit**
1:00-4:30pm **Afternoon Technical Programs**
Collection Systems
Construction
Industrial Waste Pretreatment
Stormwater
Student Research Presentations
2:30-3:30pm Afternoon Break in Exhibit Hall
4:30-5:30pm Beer & Pretzels Reception in Exhibit Hall
4:30-5:30pm Operator Olympics

Wednesday, June 5

7:00-8:30am Continental Breakfast
7:00am-12:00pm Registration Open
8:00-11:00am **Morning Technical Program**
Professional Wastewater Operations
Workshops
Tips for PT Success
Troubleshooting Your Activated Sludge Process
8:00-11:30am
8:00-11:30am
8:30am **Annual PWEA Golf Tournament**
9:30-10:00am Morning Break
11:30am Conference Concludes

A Message from the PWEA Leadership

On behalf of the PWEA Board of Directors and the 2019 Conference Committee, we invite you to attend PWEA's 91st Annual Technical Conference and Exhibition (PennTec 2019) on June 2-5 at the Penn Stater Conference Center Hotel in State College, PA.

This year's Conference Program includes a wide range of topics related to water quality. In addition to the Conference technical sessions, we are also presenting workshops which have been approved by the PA DEP for additional contact hours for water and/or wastewater operator licenses. By attending these workshops, you could earn **up to 14.0 DEP contact hours, or up to 16.75 Professional Development Hours**, in just a few days!

A very important part of the Conference is the vendor exhibition. By visiting the exhibits, you will gain insight into new and innovative solutions and discover new products and equipment that will help you do your job in a more efficient and safer manner. We encourage you to talk to the vendors about what is most important to you.

The Conference includes networking opportunities for you to meet and interact with your colleagues. The Students & Young Professionals Committee is organizing a **Community Service Project** on Sunday. We hope you will consider volunteering. See page 6 and future emails on this subject. The **President's Reception** will be in the Exhibit Hall on Monday afternoon. **The Annual PWEA Awards Ceremony and Reception** will be held on Monday evening. The **Beer & Pretzels Reception** and **Operator Olympics** will be on Tuesday afternoon.

NEW FOR 2019 - There will be an **Operations Challenge** event on Monday. Also on Monday, the Students & Young Professionals Committee will host the first annual **SYP Summit** networking event. And on Tuesday, there will be a **Women in Water Summit** networking event.

We believe the PennTec Conference will provide everything you need under one roof—education, vendor contacts, and networking. We look forward to seeing you there!



Scott Fertich
Chair, PennTec 2019
Conference Committee



Kevin Shannon
PWEA President



Jeff Cantwell
Chair, PennTec 2019
Program Subcommittee

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GENERAL INFORMATION

Conference Registration

Registration is available for the full Conference or at the daily rate. **See the chart below for a list of what is included with your registration fee.** Access to the Exhibit Hall is included for the day(s) covered by your registration. You must be a member of PWEA or WEF/PWEA to qualify for Member rates. Go to page 23 for the registration form.

Registration Confirmation

Confirmations will be sent by email. Please be sure to include your email address on your registration form.

Online Registration

To register online, go to www.pwea.org, click Event Registration under the Calendar tab, then click the Register link to go to our secure website.

Spouse/Life Partner Registration

With each FULL Conference registration, a spouse/life partner may be registered at no charge. Daily and discounted registrations do not qualify for this registration category. Training sessions, workshops, and ticketed events are not included. Ticket(s) must be purchased if a spouse/life partner wishes to attend those events.

College Students

Full-time college students may register at no charge if the registration form is submitted with a photocopy of current student identification. Ticketed events and workshops are not included.

Cancellation/Substitution Policy

No refunds granted after April 30th. A \$50 cancellation fee will be assessed on all refund requests received by April 30th. All refunds must be requested in writing. Substitutions are permitted with a \$25 per person substitution fee. Substitutions may be made until May 15th and must be made in writing, accompanied by a new registration form. Substitutions may not be made on-site.

Badges

Upon arrival at the Conference, visit the PWEA Registration Desk to pick up your badge/lanyard and other Conference materials. Everyone must have a badge to enter the Exhibit Hall, conference sessions, workshops, and food areas. **Badges will be checked, so please wear your badge in a visible area at all times.**

Wireless Internet Service

Wireless internet service will be available at no charge in the Exhibit Hall.



Consent for Use of Photographic Images

Registration and attendance at, or participation in, the PWEA Annual Technical Conference & Exhibition and related activities constitutes an agreement by the registrant to permit PWEA's use and distribution (both now and in the future) of his/her image in photographs, promotional materials, electronic reproductions, etc., of these events and activities.

WHAT'S INCLUDED IN YOUR CONFERENCE REGISTRATION

| | Technical Program Sessions | Workshops | Monday Exhibit Hall; Continental Breakfast; Breaks; Lunch; Reception | Monday SYP Plant Tour | Monday Annual Awards Reception | Tuesday Exhibit Hall; Continental Breakfast; Breaks; Lunch; Reception | Tuesday PWO Plant Tour | Wednesday Continental Breakfast; Break |
|-----------------------------------|----------------------------|-----------|--|-----------------------|--------------------------------|---|------------------------|--|
| Full Conference | Yes | Yes | Yes | No | Yes | Yes | No | Yes |
| Monday only | Yes | No | Yes | No | Yes | No | No | No |
| Monday only, YPs | Yes | No | Yes | Yes | Yes | No | No | No |
| Tuesday only | Yes | No | No | No | No | Yes | No | No |
| Tuesday only, YPs | Yes | No | No | No | No | Yes | Yes | No |
| Wednesday only | Yes | No | No | No | No | No | No | Yes |
| Spouse/ Life Partner Registration | No | No | Yes | No | Yes | Yes | No | Yes |

Early Registration Discount

Register by March 31st and save \$50 on your Conference registration fee. In order to qualify, payment must be postmarked by March 31st. (Discounted fees are noted on registration form.)

EXHIBIT HALL

The Exhibit Hall is a very important part of the PennTec Conference. The exhibits will open on Monday at 11:45am and will close on Tuesday at 5:30pm. Visiting the vendors will be informational, educational, and it will also be fun!

Raffle Prizes

Prizes will be raffled at different times throughout the Conference. Attendees registered for the conference will be given raffle tickets, and there will be marked containers placed randomly throughout the Exhibit Hall—one for each prize. Attendees may put as many of their tickets as they'd like in each marked container. Raffle tickets will be drawn in the Exhibit Hall at various times during the conference. You must be present to win. Exhibitor representatives are not eligible for these drawings.



Exhibit Hall Food Functions

Lunch, afternoon break, and the President's Reception will be in the Exhibit Hall on Monday. Continental breakfast, morning & afternoon breaks, lunch, and the Beer & Pretzels Reception will be in the Exhibit Hall on Tuesday.



Exhibit Hall Bingo

The PWEA Exhibits & Sponsors Committee organized this event for Monday and Tuesday during the Conference.

How it Works:

Conference attendees will receive a Bingo card in their registration packets, along with a list of participating exhibitor names. Each participating exhibitor will be assigned a letter/number from the Bingo cards. Attendees will need to visit the exhibitors in order to have their cards stamped.

Once the squares are stamped horizontally, vertically or on the diagonal, the attendee will then turn in the card to a designated individual or booth just before the last break of each day (Monday or Tuesday) for confirmation. Attendees must be present to win and can only turn in one card, either on Monday or on Tuesday.

Prizes will be awarded during the last Exhibit Hall break on Monday and on Tuesday.



HOTEL ACCOMMODATIONS

Penn Stater Conference Center Hotel 215 Innovation Blvd • State College, PA 16803

A block of rooms has been reserved at the Penn Stater for PennTec 2019. Reservations must be made by May 2, 2019. Rooms may not be available after this date. The discounted room rate is as follows:

\$139.00 per Room/Single or Double Occupancy

This rate includes overnight accommodations only. All rooms are non-smoking.

Please call Reservations at 1-800-233-7505 and mention Reservation ID PENF19B to receive the discounted rate.



COMMUNITY SERVICE PROJECT

Sunday, 11:00am-3:00pm

This year marks the second annual PennTec Community Service Project. We hope you will consider joining the PWEA Student & Young Professionals Committee (SYP) to help with the project in State College, PA.

As part of this year's annual project, PWEA and the Clear Water Conservancy have organized a planting event to restore streamside buffers with native trees and shrubs, which permanently protects riparian areas through conservation easements as part of the Conservancy's Riparian Conservation Program.

When people live or farm close to streams, vegetation in riparian areas is commonly disturbed or removed. This disturbance quickly begins to unravel the delicate balance that once existed between soil, water, plants, and animals. Stream banks quickly become destabilized, streams become silted and warm, invasive plant species begin to colonize, and riparian-dependent wildlife disappears.

Participation is open to anyone. Volunteers are asked to wear long pants, closed-toed shoes, and to dress for the weather. All plantings will be held rain or shine. All Participants will receive a free T-shirt and bagged lunch for the event. Equipment and safety items will be provided.

Come help PWEA promote environmental stewardship and leave a positive imprint on this year's host city. To participate, check the box on the Conference Registration Form. More details about the project will be provided by email and posted on the Conference page of the PWEA website as they become available.

If your company would be interested in becoming a sponsor, contact Cindy Rock, PWEA Conference Manager, at cindyrock@pwea.org or 570-549-2204. Sponsorships will be used to purchase equipment, trees/plants, and/or other items needed for the project.



STUDENTS & YOUNG PROFESSIONALS

The Pennsylvania Water Environment Association would like to offer a special invitation to **Students & Young Professionals (SYPs) thinking about coming to PennTec 2019**. SYPs have been participating in a number of social and service events over the years and are aiming to continue building the program. The SYP Committee is looking forward to seeing you at PennTec.

A special registration category is available for Young Professionals (YPs) who wish to attend the Conference on Monday or Tuesday. The discounted YP fee includes access to the Exhibit Hall and regular educational Conference sessions, plus continental breakfast, breaks and lunch. This registration also includes a ticket for the SYP Plant Tour on Monday or a ticket for the PWO Plant Tour on Tuesday. The chart on page 4 outlines everything included. The registration form is on page 23. Driver's license ID is required when you check in on-site.

On the Conference registration form, there is a box that you can check indicating if you are age 35 or younger. You will be given a ribbon designating your YP status.

Again this year - the SYP Committee is organizing a Community Service Project for Sunday morning. We hope you will join us. See details on page 6.

Again this year - the SYP Committee will host a Plant Tour. This year's tour will be on Monday morning at the Tyrone Regional Wastewater Treatment Facility. See page 8 for details.

New this year - the SYP Committee invites all **New Members, Students, and Young Professionals** interested in learning about PWEA and the activities of the organization, officers, and committees to participate in the SYP Summit on Monday beginning at 11:45am. This luncheon and networking event will provide the opportunity to meet experienced members of the organization and to learn how they became involved, how PWEA has helped advance their careers, and ways for new individuals to become involved today.

The SYP Committee has a number of events planned for 2019 and is looking forward to your participation.

Chris Henry
SYP Committee Chair

OPERATIONS CHALLENGE

Monday, 9:00am-3:30pm

How do operators and technicians overcome flooding, a sewer collapse, process failure, and other emergencies? Do you ever wonder what transpires behind the scenes during the operation of a wastewater treatment facility? Instead of continuing to take these unsung specialists for granted, come see wastewater collection and treatment personnel display their skills at Operations Challenge.

This year there are two teams competing during the PennTec Conference. Scores are determined by a weighted point system for five events (collection systems, laboratory, process control, maintenance, and safety), each designed to test the diverse skills required for the operation and maintenance of wastewater treatment facilities, their collection systems, and laboratories.

Process and Lab events will be held in a classroom in the morning. Other events will be held in a parking lot near the exhibit hall in the afternoon. We hope you will stop by to watch the events and cheer on the teams!



If your company would be interested in becoming a sponsor, contact Cindy Rock at cindyrock@pwea.org or 570-549-2204.

TOURS & SPECIAL EVENTS



SYP Plant Tour **Tyrone Regional** **Wastewater Treatment Facility** **Tyrone, PA** Monday, 8:30-11:30am

The Tyrone WWTF is owned by the Tyrone Borough Sewer Authority and operated by the Borough of Tyrone. It is located along Route 453 just east of the Borough limits. The Tyrone facility collects and treats wastewater generated in the Borough and areas of Snyder and Antis Townships, plus Bellwood Borough. The Tyrone Regional Wastewater Treatment Facility's average daily design flow is 13.6 MGD with a peak hourly design flow rate of 24 MGD. On average, the plant operates at an average flow of around 7 MGD. The design organic loading is 16,310 lbs. BOD/day, and the facility normal treats about 8,500 lbs. BOD/ day.

The existing WWTF was built in 1976, with major renovations in 2001. The WWTF is an activated sludge treatment facility. The plant includes the following unit processes and operations: bar screen, raw sewage grinding, primary clarification, anoxic zone selectors, aeration, final clarification, and ultraviolet disinfection. The final effluent is discharged to the Little Juniata River.

Be sure to register in advance in order to reserve your seat on the bus. A limited number of tickets may be available on-site. The cost is \$20 per person. Bus will begin boarding at 8:30am and will depart at 8:45am.



PWO Plant Tour **Penn State University** **Water Treatment Plant** **State College, PA** Tuesday, 8:30-11:30am

The Pennsylvania State University's Water Treatment Plant (WTP) went into production in 2017. The WTP treats groundwater from two well fields located in karst limestone terrain. The WTP is permitted by PA DEP to produce 5.2 mgd of finished water. The WTP's processes has parallel treatment trains for each well field, due to different raw water quality. Both trains consist of pretreatment with strainers, pressurized microfiltration membranes, and pressurized granular activated carbon adsorption vessels. In addition, one train has nanofiltration membranes. The effluents from the two trains are blended to a targeted hardness value, pH is adjusted, and disinfected prior to being pumped into the water distribution system.

Be sure to register in advance in order to reserve your seat on the bus. A limited number of tickets may be available on-site. The cost is \$20 per person. Bus will begin boarding at 8:30am and will depart at 8:45am.



Annual PWEA Golf Tournament Wednesday, Shotgun start at 8:30am

Join your colleagues for a friendly game of golf! The tournament will be held at the Penn State Blue Golf Course, about 15 minutes from the hotel. Refreshments and prizes will be provided. Net proceeds from the golf tournament will benefit PWEA's Operations Challenge Program.

To qualify for the special foursome rate, all four names must be included on one registration form and accompanied by full payment. You may not register at the foursome rate using individual registration forms.

Cost is \$85 per person (or \$320 per foursome), and includes greens fee, golf cart, lunch and refreshments. Pre-registration is required. You must register by May 15th; on-site registration is not available for this event. Appropriate golf attire is required.

TECHNICAL PROGRAM DETAILS

MONDAY MORNING

BIOSOLIDS PROGRAM

Moderator: Charles Winslow, GHD

8:45-9:15am - Evaluating Beneficial Use Alternatives for Sewage Sludge Incinerator Ash

Speaker: Trudy Johnston, Material Matters, Inc.

Material Matters evaluated possible beneficial use alternatives for sewage sludge incinerator (SSI) ash, evaluated regulations and permitting related to the beneficial use of SSI ash, and performed a preliminary market assessment to assess interest in ash. This presentation will discuss the potential applications of ash and the subsequent market assessment including methods, findings, and lessons learned.

9:15-9:45am - Understanding Design Standards and Codes for Biogas Systems

Speaker: Regina Hanson, Varec Biogas

Biogas produced from anaerobic digestion has increasingly become popular as an alternate source of fuel. Learn about the latest in design standards for biogas safety specification and get answers to your most frequently asked questions. The latest best practices and design concepts for biogas capture, transmission, and utilization will be discussed.

9:45-10:15am - Life Cycle Environmental Benefits of a Waste-to-Energy Facility: A Case Study for Hermitage Municipal Authority

Speaker: John Sheets, RETTEW Associates, Inc.

The Hermitage Municipal Authority's Waste-to-Energy Facility converts significant quantities of municipal sludge and hauled-in food wastes to renewable energy and exceptional quality biosolids. This presentation quantifies the facility's impact on reducing greenhouse gas emissions since project completion in 2014.

10:45-11:15am - What Are My Options? A Solids System Upgrade Focused on Maximizing Biogas Production and Use

Speaker: John Revette, PE, Wendel

"Replace in kind" has become an approach of the past. WWTP operators are faced with more stringent regulatory requirements, limited budgets, and sustainability expectations. Integrated capital and energy improvements can help facility managers look holistically at options. A case study of a solids system upgrade focused on maximizing biogas production/use.

11:15-11:45am - Becoming the Utility of the Future

Speaker: Renato Contipelli, quasar energy group

quasar energy group works with municipalities to deploy high-solids anaerobic digestion technology at existing treatment plants, leveraging regional feedstocks to offset the cost of infrastructure upgrades. Projects at the Maumee River WWRF and the Ohio Regional Wastewater Authority focus on reducing operating costs with co-digestion and achieving energy neutrality.

COLLECTION SYSTEMS PROGRAM

Moderators: Roger Lehman, Weston Solutions, and Ed Woyden, Gannett Fleming

8:45-9:15am - Borough of Alburtis Sewer Rehabilitation Program

Speakers: Jeff Ott, PE, and Bryon Killian, Ott Consulting

The Borough of Alburtis sanitary sewer system contains 42,480 linear feet of sewers, 220 manholes, and one pumping station. State grant funding was used to perform CCTV investigations and identify system defects. This presentation will focus on selected rehabilitation methods which include sewer replacement, cured-in-place point repairs, and manhole repairs.

9:15-9:45am - Conducting a Reliability-Based Evaluation of a Critical Wastewater Pump Station to Best Ensure Long-Term, Sustainable Performance

Speaker: Rich Atoulikian, PE, HDR

This presentation will discuss condition assessment of a critical, thirty-year old, 400 MGD second stage lift station at the Southerly Wastewater Treatment Center in Cuyahoga Heights, Ohio. Results of condition assessment were used to identify improvements and construction phasing needed for reliable operation under existing and new operating conditions.

9:45-10:15am - Eating an Elephant: SSO Elimination Project Takes Many Bites

Speaker: Ben Briston, PE, Wade Trim

This presentation will describe intricacies of planning, designing and constructing solutions to eliminate SSOs. A three-phased project including a 45 MGD pump station, 7 MG equalization tank, and 7 miles of interceptor improvements is being implemented. Insight into project obstacles, such as site constraints typical in Pennsylvania, will be provided.

10:45-11:15am - Ice, Ice Baby! Ice Pigging of a Sanitary Sewer Force Main

Speaker: David Kerr, PE, GHD

A serious capacity issue existed between the headworks pumping station and wastewater treatment plant in Solomons Island, Maryland. The existing 4.75-mile force main became the chief suspect and a good cleaning was in order. This presentation will describe the analysis of cleaning methods and implementation of ice pigging.

11:15-11:45am - Helping Homeowners Pay their Share

Speakers: Roberta Schwalm, Pennsylvania Housing Finance Agency

This presentation will discuss the Pennvest Homeowner Septic Loan, funded by the Pennvest Infrastructure Investment Authority and administered by the PA Housing Finance Agency. This program offers low-interest rate loans for homeowners facing (1) lateral repair/replacement, (2) on-lot septic system repair/replacement, or (3) first-time connection from an existing home.

TECHNICAL PROGRAM DETAILS

ENGINEERING PROGRAM

Moderator: Justin Mendinsky, Herbert, Rowland & Grubic, Inc.

8:45-9:15am - Bio-Electrochemical Sensor for Influent Wastewater Quality Monitoring at Municipal Wastewater Plants. Real-Time Insights on Known and Unknown Influent Events and Fluctuations in Organic Loading

Speaker: Jack Ambler, Island Water Technologies

Bio-electrochemical systems (BES) are an emerging technology with applications as real-time wastewater sensors. BES sensors were installed at the influent of 3 North American municipal wastewater treatment plants showing: (i) Correlation with BOD. (ii) Daily and weekly fluctuations/trends of BOD. (iii) An alert of known/unknown events occurring in the influent.

9:15-9:45am - A New Generation of Aeration Control Valves: The Missing Link Between High-Efficiency Blowers and Ultra-Fine Bubble Diffusers

Speaker: Tilo Stahl, Binder Group

New technology aeration control valves can measurably improve overall aeration performance. They are designed for low headloss, and precise, linear airflow control. Payback times can be as low as a few years. The presentation describes the technology and presents a case study.

9:45-10:15am - Development of a New Aeration Control Method for Membrane Bioreactors

Speaker: Kevin Crane, Kubota Membrane USA

Membrane bioreactors (MBR) are an established wastewater treatment technology which achieve very high effluent quality. One concern however with MBRs is the amount of energy they consume when compared to conventional activated sludge. This presentation will discuss an innovative strategy that allows MBRs to lower their energy consumption by 20-30%.

10:45-11:15am - How Much Flow Can the Plant Handle? - An Approach to Evaluating Maximum Wet-Weather Capacities

Speaker: Micah Blate, Hazen and Sawyer

This presentation will provide a defined approach to assessing the impacts of increased wet-weather flow on wastewater treatment plants, utilizing calibrated hydraulic and process modelling tools. An example case study will be presented in which the model-based approach was utilized.

11:15-11:45am - Leveraging the Glass Half Full: Utilizing Active and Abandoned Plant Processes for In-Plant Wet Weather Storage

Speaker: Dan Goodwin, PE, Wade Trim

Most treatment facilities undergo upgrades that decommission existing processes or tanks. The Bethel Park WWTP has planned its upgrades over the years to utilize the out of commission or abandoned processes as wet weather storage. Active processes have also been modified to provide additional wet weather storage.

UTILITY MANAGEMENT PROGRAM

Moderator: Mark Pickering, GHD

8:45-9:15am - How to Pay for What You Need: UMJA's Approach to Funding and Designing a \$20 Million Upgrade

Speaker: Ken Kohlbrenner, Woodard & Curran

The Upper Montgomery Joint Authority upgrading its wastewater treatment facility to avoid wet weather bypasses. By carefully coordinating design decisions with financial considerations, it found a way to combine grants with phased rate increases to provide sustainable funding for the work in a way that does not overburden rate-payers.

9:15-9:45am - Penn State University WRF Upgrade: Progressive Design/Build Case Study

Speaker: Dave Swisher, PE, Penn State University

The 3.0 MGD ADF PSU University Park Water Reclamation Facility (WRF) is currently being upgraded. Key goals are to reduce watershed impact, minimize operational risks, provide growth flexibility, and to operate efficiently and safely. Highlights will include how the D/B process has worked for PSU on key process selection to meet goals while understanding risks and budget impacts through the project development, bidding, and construction period.

9:45-10:15am - Managing Your Energy for the Future: Working with FirstEnergy's Custom Program

Speaker: Karen Heater, Sodexo

Energy efficiency opportunities at wastewater treatment facilities can reduce annual energy costs by 30 to 67 percent. This can make a significant difference on their departmental "bottom lines." This presentation will show attendees how FirstEnergy Pennsylvania provides incentives and assistance to realize these savings.

10:45-11:15am - Guaranteed Energy Savings - Guaranteed Energy Savings Act - PennSEF/FREE

Speaker: Brian L Book, PE, cb3 Solutions, LLC

The Guaranteed Energy Savings Act (GESA) allows a single-source Energy Services Contractor (ESCO) to contract directly with PA municipalities to perform needed facility upgrades to reduce energy, water, wastewater, or other consumption or operating costs through a guaranteed savings contract. Various methods of financing, project approaches, benefits and challenges, and case studies of Pennsylvania WWTP projects will be presented.

11:15-11:45am - Utility Manager Panel

Panelists include: Mike DiSantis, DELCORA; Mike Kyle, Lancaster Area Sewer Authority; and Tina Myers, New Holland Borough

A Panel of professional utility managers from small, medium, and large utilities will address hot topics and challenges related to project delivery and elements of Utility of the Future, including energy savings and recovery.

TECHNICAL PROGRAM DETAILS

MONDAY AFTERNOON

BIOSOLIDS PROGRAM

Moderator: Charles Winslow, GHD

1:00-1:30pm - Dewatering Evaluations: Belt Filter Press, Centrifuge, Screw Press, and Volute Press

Speaker: Andrew Kreider, Gannett Fleming

In 2018, common dewatering technologies (belt filter press, centrifuge, screw press, and volute press) were piloted at the Eastern Snyder County Regional Authority's WWTP in Central PA. The pilot performance data enabled a 20-year net present value (NPV) cost analysis that accounted for capital, O&M, and loan service costs.

1:30-2:00pm - Efficient Dewatering Technology Piloted at Large-Scale WWTP

Speaker: Shale Bourdon, Trident Processes Inc.

This presentation caters to WWTP operators and engineers interested in learning details about a sludge dewatering pilot at one of North America's largest wastewater treatment facilities. The objective is to give insight in pilot operating procedures and key planning and execution considerations from both an operator's and vendor's perspective.

2:00-2:30pm - Capital Region Water Dewatering Assessment - Improving Dewatering Operations to Support a Land Application Program

Speaker: Wade Yankey, Material Matters, Inc.

The Whitman, Requardt & Associates/Material Matters team recently completed dewatering assessment for Capital Region Water (CRW) in Harrisburg, PA. This presentation will discuss the assessment of current CRW operations, methods of assessment, findings, and lessons learned.

3:30-4:00pm - Removing Orthophosphate and Improving Dewaterability of Digested Sludge by Post-Digestion AirPrex® Process

Speaker: Gerhard Forstner, Centrisys/CNP

This presentation evaluates the patented AirPrex® process, the science and performance of phosphate extraction, sludge dewaterability as well as effectiveness of reducing phosphorus load to EBPR plant. This presentation shares operating results from 10 operating sites in Europe as well as results of multiple pilot runs in the US.

4:00-4:30pm - Post-Aerobic Digestion - A Simple but Comprehensive Biosolids Management Technology

Speaker: Bryen Woo, PE, Ovivo USA, LLC

This presentation will discuss the origins of post-aerobic digestion, the decay mechanisms that are taking place within the post-aerobic process volume, design criteria, equipment selection, process control mechanisms, projected performances and results from full scale installations.

COLLECTION SYSTEMS PROGRAM

Moderators: Melissa Smith, GHD, and
Bruce Hulshizer, Herbert, Rowland & Grubic

1:00-2:30pm - Mobile Presentations in Exhibit Hall

The PWEA Collection Systems Committee will bring a successful concept from the Water Environment Federation (WEF) National Conference and the WEF National Collection System Specialty Conference to PennTec: Mobile Sessions. These are curated presentations in selected exhibit booths. Moderators will lead small groups to the presentations (groups will rotate their starting point). Attendees who elect to view the mobile sessions will be able to receive the same credit as if they were attending a classroom presentation. Presentations will be educational, not vendor sales pitches. Details about each presentation will be provided in the On-Site Conference Program.

3:30-4:00pm - Conducting Air Monitoring in Your Collection System

Speaker: Thomas Burgess, CSP, CIH, T&M Associates

This presentation is intended for people that select, maintain and use portable air-monitoring instruments. It addresses not only the use of the meters, but also provides an understanding of hazardous gases/vapors that are monitored in wastewater collections/treatment systems and exposure limits used to determine acceptable levels of these gases/vapors.

4:00-4:30pm - The Impacts of Non-Dispersible Wipes on Treatment Operations

Speakers: Joshua Fox, PE, and Brent Wagner, both with
Herbert, Rowland & Grubic, Inc.

Like many wastewater facilities, the Pottstown WWTP is plagued by non-dispersible wipes. The wipes have clogged clarifier suction lines, impacted aeration and mixing, and required the upgrade of influent mechanical bar screens. This presentation will review the required labor and costs to deal with this nuisance.

STUDENTS & YOUNG PROFESSIONALS SUMMIT

Monday, 11:45am-1:30pm

The SYP Committee invites all **New Members, Students, and Young Professionals** interested in learning about PWEA and the activities of the organization, officers, and committees to participate in the SYP Summit. This luncheon and networking event will provide the opportunity to meet experienced members of the organization and to learn how they became involved, how PWEA has helped advance their careers, and ways for new individuals to become involved today.

There is no charge to attend, but pre-registration is required.

TECHNICAL PROGRAM DETAILS

ENGINEERING PROGRAM

Moderator: Justin Mendinsky, Herbert, Rowland & Grubic, Inc.

1:00-1:30pm - Pretreatment Screening for Maintenance Savings and Improved Treatment at CRW's AWTF

Speaker: Peng Chen, PE, and Mark Pickering, PE, both with GHD; and Jeff Bowra, PE, Capital Region Water

A new, fully automated 80 MGD screening facility at Capital Region Water's (CRW) AWTF removes solids larger than ¼ inch from plant influent, significantly reducing the costly maintenance problems at the grit tanks, primary clarifiers, and anaerobic digesters. This best-fit solution was designed with process redundancy and operational flexibility. The screen's startup performance shows the new screening system is meeting the project goals.

1:30-2:00pm - Canton WRF MBR - Built, Started, Tested and Operational

Speaker: Terry M. Gellner, PE, TnT Engineering LLC

The City of Canton WRF is one of, if not the largest MBR activated sludge plants constructed and operational in North America. Average daily flow is 39 MGD. Peak day flow is 88 MGD. Construction began in 2014. First train operational in 2016. All trains (6) operation by end of 2017. Finalizing demonstration, flow and process testing throughout 2018 and first quarter of 2019. Focus of presentation will be accelerated construction and impacts of MBR trains, start-up, testing, control and operation.

2:00-2:30pm - Analysis of Alkalinity Mass Balance and Recovery Options for a 30 MGD Plant

Speakers: Jurek Patoczka, Mott MacDonald

A large, nitrifying WRRF faced an increasing alkalinity deficit. Evaluated options for resolving deficit included alkalinity addition, curtailed nitrification, side-stream treatment, modification of chemical addition practices, and introduction of anoxic zones for partial denitrification. Multiple anoxic zones were selected for implementation, with side-stream treatment also considered for future implementation.

3:30-4:00pm - Reducing Energy Consumption at Two Wastewater Treatment Plants

Speaker: Sami Sarrouh, PE, T&M Associates

Case study about an authority that participated in a clean energy program by making modifications to two wastewater treatment plants. An energy reduction plan was implemented and modifications done reducing energy consumption beyond the required 15% minimum. In addition, there were lessons learned from solving problems faced after new blowers were installed.

4:00-4:30pm - Ozone Use at University Area Joint Authority

Speaker: Catherine Oakleaf, RETTEW Associates, Inc.

The University Area Joint Authority utilizes ozone for Advanced Water Treatment (AWT) for beneficial reuse. Ozone replaced biocide for biofouling control for the reverse osmosis membranes. After having success with ozone in the AWT process, UAJA decided to explore replacing their aging UV disinfection system with ozone. A feasibility study was completed in 2018 with favorable results.

UTILITY MANAGEMENT PROGRAM

Moderator: Ray Ferrara, Kleinfelder

1:00-1:30pm - NPDES Permitting Trends

Speaker: Gary Cohen, Hall & Associates

This presentation will cover the latest trends in NPDES permits from both a national and Pennsylvania perspective, and educate permittees about opportunities to be proactive, identify issues associated with water quality-based effluent limitations, municipal wet weather conditions, storm water requirements, and other permit requirements.

1:30-2:00pm - PA NPDES Permit Case Studies

Speaker: Michael Dillon; Manko, Gold, Katcher & Fox LLP

This presentation will provide the speaker's experience and perspective on a variety of recent NPDES permit actions in Pennsylvania. Actual cases and implications for future regulation will be discussed.

2:00-2:30pm - PA DEP Representative, Part 1

Speaker: To Be Announced

An update on PA DEP's recent NPDES permit program actions, as well as a look into upcoming changes to PA DEP's NPDES permit program, will be provided.

3:30-4:00pm - PA DEP Representative, Part 2

Speaker: To Be Announced

An update on PA DEP's recent NPDES permit program actions, as well as a look into upcoming changes to PA DEP's NPDES permit program, will be provided.

4:00-4:30pm - Government Affairs Panel

Speakers from the previous four presentations will take part in a roundtable discussion, responding to audience questions about NPDES permits and related topics.

TECHNICAL PROGRAM DETAILS

TUESDAY MORNING

COLLECTION SYSTEMS PROGRAM

Moderators: Chris Patackis, Brown and Caldwell, and Kate Mechler, Mott MacDonald

8:00-8:30am - The Rehabilitation of a 100+ Year-old 125' Brick Manhole and 350' Long Egg Shaped Brick Culvert Requires Advanced Engineering Design, Materials & Installation Methods

Speaker: Matthew Richards, Vortex Companies

An existing 125-foot deep brick manhole feeding into a 78-inch x 66-inch egg shaped brick culvert required an advanced engineering solution consisting of geopolymer mortar and precision application processes. The completely restored and structurally rehabilitated system now has an extended service life of 75+ years.

8:30-9:00am - Letort Interceptor Rehabilitation

Speaker: Matthew D. Cichy, PE, Herbert, Rowland & Grubic, Inc.

Case study of design and construction of a 42-inch diameter RCP interceptor using cured-in-place pipe lining. The interceptor parallels Letort Spring Run, one of the finest limestone trout streams in the nation. This presentation will focus on design aspects of the project and include some construction phase aspects as well.

9:00-9:30am - Rehabilitation of a 68"x43" Elliptical Reinforced Concrete Sewer

Speakers: Charlie Hurst, PE, and Joe Centrone, both with DELCORA

That oval sewer under the Interstate collapsed. Now what? This presentation will describe the evaluation and repair of a 68-inch x 43-inch RCP sewer using two separate repair methods.

10:30-11:00am - Emergency Rehabilitation of the Wilson Road Force Main

Speaker: Susanne Lockhart, PE, Brown and Caldwell

The Wilson Road Force Main is a 30-inch PCCP pipeline located within Valley Forge National Historical Park and an exceptional value stream watershed. Emergency repairs were required due to three catastrophic pipe failures in three years. This presentation will discuss project constraints, alternative analyses, work performed, and lessons learned.

11:00-11:30am - Manhole Rehabilitation Using Composite Manhole Frame and Covers

Speaker: David Kee, PE, ARRO Consulting

This presentation will provide a basic understanding of utilizing synthetic manhole frames and covers in conjunction with manhole lining to help minimize corrosion from hydrogen sulfide. A case study will be presented in which manhole lining and composite frame and covers were utilized to reduce long-term maintenance of existing manholes.

ENGINEERING PROGRAM

Moderator: Justin Mendinsky, Herbert, Rowland & Grubic

8:00-8:30am - Beat Ultra-Low Phosphorus Targets with Reactive Filtration: How the Town of Citronelle, Alabama Consistently Hits 0.02 mg/L

Speaker: Todd Latchaw, Nexom

As phosphorus-fed algae blooms continue to plague North American bodies of water, regulators are pressuring WWTPs to meet ever-lowering phosphorus limits – all the way down to micrograms per liter. Watch this presentation to learn how Citronelle, AL's Blue PRO® reactive filter produces <0.02 mg/L TP effluent with adsorption/reaction kinetics that improve on traditional particle coagulation and filtration.

8:30-9:00am - Upgrade of Lagoon Based Treatment Systems to MBBR for Nitrification

Speaker: Siva Angappan, Headworks International

Nutrient control is being increasingly required throughout the US. However, many existing treatment systems are lagoon-based and equipped to remove BOD only. Nitrification requires a large tank volume, and capacity of such lagoon-based plants may be inadequate. This becomes even more challenging in winter as nitrification practically stops at temperatures <41° F. Adding an MBBR to treat lagoon effluent is a very effective solution to overcome such challenges. The efficacy of MBBR for upgrading existing lagoons to meet nitrification requirements at low temperatures will be presented in this session with the help of two case studies.

9:00-9:30am - Innovative MBR Retrofit of Brush Creek WPCF

Speaker: Joel Kostelac, PE, BCEE, GHD

Faced with the need to expand capacity and improve treatment, Cranberry Township underwent design of an upgrade, selecting the MLE/MBR process to meet treatment goals in a space constrained site. This presentation will discuss the innovative ways the project was designed, constructed and commissioned (to be complete June 2019).

10:30-11:00am - How Much Does the Media Matter - SMTMA's Results with IFAS

Speaker: Howard G. Butler, PE, GHD

The South Middleton Municipal Authority's WWTP recently underwent an upgrade which included a retrofit of Integrated Fixed Film Activated Sludge (IFAS) into their treatment process. The presentation focuses on the operational considerations of running the process with IFAS media, including nutrient reduction, process optimization, energy consumption, and wet weather management.

11:00-11:30am - PA's Evolving Nutrient Credit Trading Program: Yesterday, Today, and Tomorrow

Speaker: Lisa Challenger, Material Matters, Inc.

Material Matters is deeply rooted in Pennsylvania's nutrient trading program, assisting with the purchase and sale of over 300,000 credits in CY2018. This presentation will discuss the multi-year trends of the program, including the significant credit deficiency realized during CY2018, which is expected to drive nutrient credit pricing moving forward.

TECHNICAL PROGRAM DETAILS

FINANCE PROGRAM:

PUBLIC PRIVATE PARTNERSHIPS

Moderator: Kevin Fox, Herbert, Rowland & Grubic

Could public-private partnerships (P3) and stormwater utility fees be the solution to your community's infrastructure needs? P3 projects can often be executed faster and for less money. Stormwater utilities are helping local communities replace aging infrastructure, reduce flooding, and comply with increasing water quality regulation in an affordable way.

8:00-8:30am - The P3 Solution: Opportunities for Sustaining Your Utility and Protecting from Privatization in a Cost Effective, Low Risk Manner

Speakers: Adrienne Vicari, P.E, Herbert, Rowland & Grubic, Inc., and Mike Gossert, Quandel Construction

Financing of municipal infrastructure is changing and municipalities should consider these new financing structures. Adrienne will explain the driving force behind P3's and why they are revolutionizing municipal solutions. Mike will explain the challenges of the traditional construction process and how P3 models prevent cost overruns, provide faster delivery and better collaboration.

8:30-9:00am - Determining the Right Financing Strategy for Your P3 Project, and Understanding State Law Governing P3s and Negotiating Fair, Balanced Contracts

Speakers: E. Lee Stinnett, II, Salzmann Hughes, PC and Ryan Sullivan, Signet Capital, LLC

There are variety of P3 models. It starts with good written contract. Ryan will discuss various P3 models and offer advice on how to choose the most appropriate model for your project. Lee will discuss P3 state regulations and laws as well as important elements to be covered in the contract.

9:00-9:30am - P3 Case Study - Making P3's work in Pennsylvania

Speaker: Steve T. Park, Ballard Spahr, LLP

The City of Allentown entered into a public-public partnership with the Lehigh County Authority to lease its water and sewer system in exchange for an initial up-front payment and annual rental payments.

STORM WATER UTILITY

10:30-11:00am - Tips and Tricks for Gaining Community Support When implementing a Stormwater Fee

Speaker: Bruce Hulshizer, PE, and Kiana Tralongo, both with Herbert, Rowland & Grubic.

Stormwater utilities provide a dedicated revenue source to address aging infrastructure, increased flooding, and the rising cost of water quality regulation. Public outreach can help constituents understand the need for new revenue and help them see that stormwater fees provide a lower cost per homeowner than a property tax increase.

11:00-11:30am - SW Case Study - How Authorities Can Partner with Their Municipality to meet SW Challenges

Speaker: Jeff Colella, Storm Water Division Manager, Wyoming Valley Sanitary Authority (WVSA)

Hear from the Storm Water Division Manager of WVSA about how implementing a stormwater fee helped Wyoming Valley municipalities improve water quality and reduce flooding at an affordable cost. Jeff will offer advice on how municipalities can effectively partner with their existing authority to achieve greater efficiency.

INDUSTRIAL WASTE PRETREATMENT PROGRAM

Moderator: Judy Musselman, BCES, QEP, GHD, and Stephanie Clay, ARRO Consulting

8:00-8:30am - Co-Mingling of Industrial Pretreatment and Sewer Surcharge Programs

Speaker: Nancy Adams, GHD

The implementation of Industrial Pretreatment Programs often co-mingle with the development and application of high strength waste sewer surcharge programs. Though these are intertwined to some degree, often times the applicability of a surcharge program to non-permitted, non-domestic users can be overlooked. This presentation will discuss the how, what, where and why of implementing a sewer surcharge program to industrial and non-industrial users alike.

8:30-9:00am - Commissioning of Advanced Leachate Treatment Plant

Speaker: Kerim Temel, Brown and Caldwell

A state-of-the-art landfill leachate treatment plant (LTP) for discharge to surface water was commissioned concurrently with construction activities. The LTP design process included extensive characterization, design basis development, bench and pilot testing, and detailed design. The LTP includes organics and inorganics pretreatment, membrane bioreactor, reverse osmosis, ammonia polishing, RO concentrate reduction system and sludge dewatering.

9:00-9:30am - Troubleshooting of Nitrification Upsets at Pharmaceutical Wastewater Treatment Plant

Speaker: Jurek Patoczka, Mott MacDonald

A pharmaceutical manufacturing facility was experiencing recurring upsets of nitrification at its wastewater treatment plant. It was determined that some of the instances of nitrification failure were a direct result of nitrifiers washout due to a nitrogen deficiency followed by increased TKN loads. Ammonia supplementation in an amount adequate to maintain effluent nitrate concentration of 25 mg/L at all times was implemented with success. Similar to granule technologies, these mobile biofilms can intensify treatment while also increasing settle-ability.

10:30-11:00am - PFAS in the Water Cycle - What are the Issues - From Australia to Pennsylvania

Speaker: Chris Hertle, GHD

Per and Poly-Fluoroalkyl Substances (PFAS) are an emerging group of contaminants that have been used extensively in the past (e.g. in firefighting foams). They are now widely present in water and soils globally. There is an intense effort underway internationally to understand and respond to PFAS contaminated land, groundwater and surface water. The key areas where PFAS may impact water authorities relate to drinking water, wastewater and biosolids from sewage treatment plants. This paper outlines strategies and management approaches where PFAS is of concern.

11:00-11:30am - Development of POTW Local Limits for Industrial Users and Methodology for Allocation of Limits

Speaker: Jenna Bishop, ARRO Consulting

This presentation will discuss how to develop local limits for Industrial Users utilizing the EPA local limits spreadsheet with 23 Tables of information and calculations. It will show the methodology for developing the sampling plan, collecting samples and entering monitoring data and POTW data, how to calculate and compare allowable headworks loading, and determine proposed local limits, and the influent, effluent and sludge goals for the POTW. The process of communicating with EPA and obtaining final approval and adoption of the proposed local limits will also be discussed.

TECHNICAL PROGRAM DETAILS

STORMWATER PROGRAM

Moderators: Nathan Walker, Wood, and Beth Dutton, 3 Rivers Wet Weather

8:00-8:30am - MS4 Permits Make Compliance Impossible and Create Significant Liability Where None Should Exist

Speaker: Gary Cohen, Hall & Associates

In spite of the scarcity of municipal separate storm sewer system ("MS4") regulations, permitting actions throughout the country by states and/or EPA have resulted in the issuance of MS4 permits with requirements that will result in immediate and long-term noncompliance as illustrated in several case studies. Failure to eliminate these provisions will unnecessarily create massive municipal liability and allow citizen suit enforcement where none should occur or exist on these issues.

8:30-9:00am - Regulatory Compliance Strategies to Be Prepared for NexGen Municipal Stormwater Programs

Speaker: Justin W. Curtis, AquaLaw PLC

Communities with regulated municipal separate storm sewer systems are being asked to bear increasing burdens to improve impaired waterbodies, especially downstream waters such as the Chesapeake Bay. This presentation reviews several practical steps MS4 managers can take to be prepared to deal with escalating future permit obligations.

9:00-9:30am - Adding Stormwater: When a Sewer Authority Expands Its Role

Speaker: Nathan Walker, Wood Environment & Infrastructure Solutions

Upper Merion Municipal Utility Authority amended their charter to add stormwater management as a core function. Learn about the Authority's process to define the elements of its preferred future stormwater program as part of this transition – including flood mitigation projects and routine operations and compliance activities.

10:30-11:00am - Stormwater Fee Credit Programs - Lessons Learned to Make Them Work, Part 1

Speaker: Anthony Dill, Arcadis U.S., Inc.

Many Pennsylvania communities have implemented or are contemplating a stormwater fee program. Stormwater fee credit programs can provide fee equity and spur private investment in new best management practices. This presentation covers benefits and lessons learned from three Pennsylvania communities: Hampden Township, City of Lancaster, and Swatara Township.

11:00-11:30am - Stormwater Fee Credit Programs - Lessons Learned to Make Them Work, Part 2

Speaker: Anthony Dill, Arcadis U.S., Inc.

Many Pennsylvania communities have implemented or are contemplating a stormwater fee program. Stormwater fee credit programs can provide fee equity and spur private investment in new best management practices. This presentation covers benefits and lessons learned from three Pennsylvania communities: Hampden Township, City of Lancaster, and Swatara Township.

TUESDAY AFTERNOON

COLLECTION SYSTEMS PROGRAM

Moderators: Matt Cichy, Herbert, Rowland & Grubic, and Duk Shin, Gannett Fleming

1:00-1:30pm - How Flowmeters Played an Instrumental Role in Tracking and Reducing I/I in Bristol Township

Speaker: Vanessa Nedrick, PE, Remington and Vernick Engineers

Bristol Township has reduced flows by 1 MGD over a 4-year period. This presentation will discuss the use of flow meters to track and locate inflow/infiltration (I/I) in the collection system, prioritize drainage areas to be addressed with I/I abatement efforts, and implement I/I abatement efforts.

1:30-2:00pm - Convey and Treat: A Solution to Excessive I/I as an Option to Sewer System Replacement

Speaker: Steven Gibson, PE, Gwin, Dobson & Foreman, Inc.

A common "solution" to excessive inflow/infiltration and overflows in a sanitary sewer system is implementing system-wide sewer replacement. This presentation will describe the alternative approach used by the Brookville Municipal Authority including inflow/infiltration diagnostic work, alternatives analysis, and construction of more cost-effective wet-weather flow conveyance and treatment facilities.

2:00-2:30pm - Borough of Spring Grove's On-Going Inflow/Infiltration Remediation Efforts

Speaker: David Schlott, PE, ARRO Consulting

This presentation will describe Inflow and Infiltration (I/I) remediation efforts by the Borough of Spring Grove in the last 8 years. Projects have included sewer rehabilitation, sewer/lateral replacement, manhole rehabilitation, and wastewater treatment plant improvements. In addition, flow meters have been installed to identify and prioritize future I/I remediation efforts.

3:30-4:30pm - Session details will be provided in the on-site Conference Program

4:00-4:30pm - ALCOSAN Service Area Sewer Regionalization Update

Speakers: Jan Oliver and David Bingham, both with ALCOSAN

ALCOSAN has proceeded with regionalization of inter-municipal sewers that are 10-inches in diameter or greater and eight associated facilities. Understanding the physical condition is essential to sustain the sewers consistent with overall service level objectives. This presentation will describe the regionalization process, technical due diligence, intelligent data management, and transfer agreements.

TECHNICAL PROGRAM DETAILS

CONSTRUCTION PROGRAM

Moderator: Justin Mendinsky, Herbert, Rowland & Grubic

1:00-1:30pm - The Sinking Caisson Method - Excavation Support Solution for Bad Ground

Speaker: Aaron J. Smith, PE, CCM, H.R. Gray – A Haskell Company

Excavation Support is critical to the success of any underground project. The Northeast Ohio Regional Sewer District (NEORS) typically sees contractors use traditional methods to accomplish this task. Recently, one contractor incorporated an innovative excavation support method that proved to be strong, safe, watertight, and customizable: The Sinking Caisson Method.

1:30-2:00pm - City of Bowie Pipe Bursting

Speaker: John A. Blondell, PE, KCI Technologies, Inc.

Pipe bursting is a trenchless construction method for replacing underground water and sewer pipes. The City of Bowie selected KCI to design a “prototype pipe bursting project” for replacing a 55+ year old 6” corroded water main extending beneath trees, roadways, paved driveways, sewer and gas easements, and a stream.

2:00-2:30pm - Kelly Crossroads: Connecting Rural Customers to Public Sewer in an Affordable Way

Speaker: Erin Threet, PE, Herbert, Rowland & Grubic, Inc.

Examine how creative design techniques, partnerships, and grant funding combined to achieve low-cost public sewer connection for a remote rural community in Kelly Township, Union County. Presentation will follow the project from planning through design and construction, highlighting key challenges and the creative solutions that met residents’ needs.

3:30-4:00pm - Innovative Construction Methods for Delivering a 28 MGD PS in 14 Months

Speaker: Anthony G. Elberti, PE, Gannett Fleming, Inc.

DELCO’s latest pumping station is a combination of 5 MGD hauled in waste and 28 MGD raw wastewater and was a challenge to install given the site restrictions and short timeframe in order to meet an EPA Consent Decree. The contractor delivered numerous constructability approaches that offered significant time savings.

4:00-4:30pm - Guaranteed Energy Savings Contract Provides Sustainable Approach to WWTP Expansion Project

Speaker: William Rehkop, PE, Derry Township Municipal Authority

Guaranteed Energy Savings Act (GES) provides an alternate project delivery method for public utilities in Pennsylvania to award a single contract to an Energy Savings Contractor (ESCO) to implement an “energy conservation measure.” This presentation will provide an in-depth review of Derry Township Municipal Authority’s GES Contract with their selected ESCO, Energy Systems Group, LLC (ESG). This includes a review of the waste organics market analysis, design, contractor selection, and pricing, all of which driving future estimates of revenue and operational savings to ensure the project is self-sustainable and provides a payback guarantee of 20 years or less.

INDUSTRIAL WASTE PRETREATMENT PROGRAM

Moderator: Judy Musselman, BCES, QEP, GHD, and Stephanie Clay, ARRO Consulting

1:00-1:30pm - Developing, Implementing and Enforcing an Industrial Pretreatment Program

Speaker: Stephanie Clay, ARRO Consulting

The presentation will review the process for preparing the various components of an EPA mandated industrial pretreatment program for a POTW including approval process by the EPA and adoption. It will also review the method for preparing the major elements of an IPP including Legal Authority with an Enforcement Response Plan; Local Limits; Compliance Monitoring Program; Implementation Procedures; and Program Organization, Costs and Revenue Sources.

1:30-2:00pm - Session details will be provided in the on-site Conference Program

2:00-2:30pm - Session details will be provided in the on-site Conference Program

3:30-4:00pm - Session details will be provided in the on-site Conference Program

4:00-4:30pm - Session details will be provided in the on-site Conference Program

STUDENT RESEARCH PROGRAM & POSTER CONTEST

Moderators: Rachel Brennan, PhD, Penn State University, and Holly Frederick, PhD, Wilkes University

1:00-4:30pm

The Research Program showcases the ongoing research activities of students (graduate and undergraduate) in the fields of wastewater, water quality, and environmental management relevant to Pennsylvania. The PWEA Research Committee reviews student research abstract submissions from across the region and selects the top five for oral presentation and to receive the Student Research Award. In addition, qualifying abstracts are invited to participate in a Poster Contest at the Conference. After judging by faculty and practicing engineers, the top poster presenters in both undergraduate and graduate categories will be selected. All posters will be available for viewing by Conference attendees. Awards will be presented during the Research Program.

WOMEN IN WATER SUMMIT

Tuesday, 11:30am-1:00pm

Join your fellow colleagues for the first annual Women in Water Networking Summit. This event will feature networking opportunities along with a panel discussion with prominent women in the water industry to share their personal and professional challenges and successes, work/life balance, and education experiences.

This event will provide a focused opportunity for women to network with other women in the water industry along with providing an excellent networking opportunity for Women Business Enterprise (WBE) and Minority Business Enterprise (MBE) businesses, and mentoring opportunities for younger professionals. Lunch will be provided.

There is no charge to attend, but pre-registration is required.

TECHNICAL PROGRAM DETAILS

STORMWATER PROGRAM

Moderators: Nathan Walker, Wood, and Beth Dutton, 3 Rivers Wet Weather

1:00-1:30pm - Green Infrastructure: The Need for Collaboration from Design to Post Installation

Speaker: Robert Woodman, PE, ACF Environmental

Collaboration: A Purposeful relationship where all parties strategically choose to cooperate to achieve shared or overlapping objectives. For Green Infrastructure projects to be successful, it is critical that all entities are working together from design conception through to post installation. But are we collaborating as well as we could be?

1:30-2:00pm - Evaluating Opportunities for Stormwater Retrofits in an Urban Combined Sewershed

Speaker: Roy Rudolph, GHD

Nine Mile Run Watershed Association has been evaluating opportunities in the Rosedale area of the Nine Mile Run watershed where stormwater retrofits may reduce runoff and CSO impacts. This presentation discusses the geo-processing and hydrologic-hydraulic modeling performed to identify potential stormwater retrofit opportunities.

2:00-2:30pm - Skippack Creek Watershed Alliance

Speaker: Gregory Duncan, BCE - Boomi Environmental

The formation of a multi-municipal alliance to address MS4/TMDL waste load reductions in a cost-effective manner by reducing duplicative effort and sharing resources and expertise will be discussed. Cooperation on the watershed-scale, with area stakeholders, has allowed for selection of larger-scale projects which will help move the group towards their permit goals more easily and in a more cost-effective manner than would be possible individually.

3:30-4:00pm - Utilizing GIS Infrastructure Asset Management for MS4 Compliance Reporting

Speaker: Alfred Guiseppe, Spotts, Stevens and McCoy

A GIS-based infrastructure asset management program can be used to document all MS4 activities, including outfall inspections, basin assessments, public outreach activities, employee training, and BMP installation and maintenance. In addition to functioning as a records management database, the program can be used to generate required compliance reports electronically.

4:00-4:30pm - American Street: An Innovative Approach to Project Implementation & Stormwater Management in an Urban Setting

Speakers: Trevor Woodward, PG, Gilmore & Associates, Inc.

The American Street Improvement project consists of a two-mile urban roadway revitalization with a focus on improving accessibility and safety for all corridor users and providing significant green stormwater infrastructure to treat roughly 1.4M gallons of rainwater, while deploying innovative engineering techniques such as customized infiltration columns to manage stormwater.

WEDNESDAY MORNING

PROFESSIONAL WASTEWATER OPERATIONS PROGRAM

Moderator: Carrie Keeley, Philadelphia Water Department

8:00-8:30am - Using Data to Optimize the Water/Wastewater Process

Speaker: Vicki McCorkle, PE, T&M Associates

The key to efficient and profitable operation of a water treatment facility is the collection and use of all available data for analysis, decision-making and enterprise solutions. We are familiar with the concept of a supervisory control and data acquisition (SCADA) system collecting and storing data from pumps, valves and instruments for monitoring by operators. But what other data can we collect, and how can it be used?

8:30-9:00am - A Refresher on Simple Tools and Techniques for Troubleshooting Small Flow Water and Wastewater Plants

Speaker: Ed Spayd, Herbert, Rowland & Grubic, Inc.

This presentation provides a review of simple tools and techniques to assist operators with troubleshooting small flow treatment facilities (typically < 500,000 gpd). Some tools and techniques being discussed will include; additional sampling strategies, sludge judge and settling tests, chemical feed system improvements; and understanding flowrates.

9:00-9:30am - Sustainability Starts with Screening - Water & Wastewater

Speaker: Thomas Steinke, Parkson Corporation

The objective of this session is to understand the importance of selecting the proper screening technology to protect downstream processes. Proper protection of downstream systems allows optimized energy consumption, reduced maintenance and long-term performance reliability. A review of the application of screening technologies for water and wastewater will be provided, including advantages and disadvantages.

10:00-10:30am - Unique Process Control for Optimum Nitrogen Removal in Small Flow Wastewater Treatment Plants

Speaker: Robert Kershner, Innovative Treatment Products

This presentation will discuss small flow WW cases where the innovative strategies were used to design and control a unique and efficient MBR process capable of meeting high quality treated effluent with an emphasis on low levels of total nitrogen to satisfy the needs of the Chesapeake Bay watershed and beyond.

10:30-11:00am - Scum System Automation at the Philadelphia Water Department's SWWPCP

Speakers: Eloise Gibby, Greeley and Hansen

Scum concentration can be a simple or complicated process, depending on the destination of the concentrated scum. This presentation will present the field studies performed, provide details of various scum concentration technologies, described the alternatives analysis process and outcome that resulted in the design of an improved scum concentration system at the Philadelphia Water (PWD) Southwest Water Pollution Control Plant.

CERTIFICATION

PA DEP Operator Certification

The PA Department of Environmental Protection (PA DEP) has approved permanent continuing education status for the PWEA Annual Conference. The Conference is being planned in accordance to the requirements of House Bill 183 (Act 11) and application has been approved to provide five (5) contact hours to eligible **drinking water & wastewater operators**. The PWEA is a PA DEP accredited sponsor and is permitted to issue continuing education credits to water and wastewater operators.

To ensure you meet continuing education requirements, please refer to the Operator Certification 3-Year Renewal Cycle Schedule. **IMPORTANT: Contact hours received outside of your renewal cycle will not count toward your requirements.**

To comply with accreditation sponsor requirements, the PWEA will require every attendee to check in and out of each half day timeslot by presenting the contact hour tracking sheet for stamping.

Contact hour tracking sheets will be available at the Registration Area. Review this form very carefully so you are aware of all requirements. You must attend at least 2.5 hours in each half day in order to qualify for contact hours. Each half day session is worth 1.0 contact hour. Use the same contact hour tracking sheet for all Conference sessions.

Completed sheets must be turned in to the PWEA registration staff during posted registration hours. You must provide a photo ID when turning in your tracking sheet. Certificates will be processed and emailed approximately one month after the Annual Conference.

In addition to the Conference contact hours, eight workshops have been approved by the PA DEP for additional credit. Go to pages 20-21 for more information. These workshops will run concurrently with the Conference and may have extended hours. You will receive credit for either the workshop or the Conference session, depending on what you attend during each timeslot.

Please note: You may only receive credit for attending a specific workshop once during your renewal cycle. DEP will not count the same workshop more than once within a cycle. Please check your records to be sure you have not previously attended one of these workshops within your current cycle.

Continuing Education for Professional Engineers

PWEA technical sessions are not pre-approved by the State Registration Board. Therefore, it is not possible to guarantee their acceptance for certification purposes. PWEA will issue an attendance certificate provided you submit a tracking sheet which will be available at the Registration Area. PE's, LS's and Geologists earn 3 Professional Development Hours (PDH) per half day session.

Other Certification

At this time, the PWEA cannot provide continuing education certification for anyone other than PA DEP water and wastewater operators. However, Certificates of Attendance can be prepared and mailed upon request. It is your responsibility to check with your certification board to determine whether this type of certificate is acceptable.



Job Board

Do You Know About PWEA's Job Board?

PWEA's Job Board connects candidates with employers seeking to fill open positions. Employment positions submitted to PWEA are viewable on the PWEA Website at any time. Visit www.pwea.org and click on the "News & Info" tab; then select "Job Board – Open Positions."

PENNTEC 2019 WORKSHOP DETAILS

The following workshops are being offered during PennTec 2019 on June 2-5 at the Penn Stater Conference Center Hotel in State College, PA. You may add these courses to your PennTec registration, or you may register for individual course(s) separately. You must register in advance for these courses. All courses are limited to 40 attendees, unless otherwise noted.

Monday, 8:45-11:45am

A Safety Committee Workshop

Moderator: Lisa Cortazzo, ALCOSAN

PA DOT Flagger Certification

This course is PA DEP approved for **2.5 drinking water & wastewater contact hours**. Course ID 5974. **(Limited to 20 attendees.)**

Instructor: Kelly Kramer, RETTEW Associates

Why is traffic control important? What are the flagger qualifications? How do I comply with Publication 212, 213 and MUTCD? What equipment is necessary? What is the proper flagger position/location? How do I control traffic using stop/slow paddle or red flag? How do I control two-way traffic in one lane? How do I control traffic at an intersection? What should I do to control traffic in unique/special flagging situations? What is considered "safe" while flagging at night? How should I communicate with co-workers and the public? Upon successful completion of the course, each student shall receive a flagger certification card that is valid for 3 years from the date of course completion.

Monday, 8:45am-4:30pm

A PWO Committee Workshop

Securing Drinking Water & Wastewater Treatment Facilities

This course is PA DEP approved for **5.0 drinking water & wastewater contact hours**. Course ID 2952.

Instructor: Mike Sedon, Cranberry Township

The Water and Wastewater Systems Operators' Certification Regulation mandates that all certified operators complete the DEP's system security course. This requirement encompasses all classifications of operators, including those with a "grandfathered" certificate and newly licensed operators. The course must be completed by the end of the operator's first full cycle. Failure to complete the course will result in the loss of license. The course only needs to be taken once. The student will be able to recognize methods for developing and increasing security awareness as it applies to water and wastewater treatment facility operations.

Monday, 1:00-4:30pm

A Training Committee Workshop

Wastewater Microlife Basics

This course is PA DEP approved for **3.0 wastewater contact hours**. Course ID 3416.

Instructor: Jim Kern, PE, Central Delaware County Authority

The heart of any activated sludge plant is the microlife present in the facility. With the right distribution of the right microorganisms, a wastewater treatment plant will produce a crystal-clear effluent that is well within its discharge permit limits. The purpose of this course is to provide the operator with an understanding of the importance of the microlife. The operator will learn how to monitor and control the microlife population. Factors impacting the bacteria will be reviewed along with typical problems.

Tuesday, 8:00am-4:00pm

A PWO Committee Workshop

Distribution Systems

This course is PA DEP approved for **5.5 drinking water contact hours**. Course ID 6562.

Instructor: Mike Sedon, Cranberry Township

There are various components and considerations which must be addressed in a distribution system. The goal of this workshop is to supply students with the necessary knowledge to prepare for the distribution system certification examination. Content will include: Distribution Operator Certification; Distribution Network Components; Distribution Storage; and Water Quality and Monitoring. This workshop is intended to help participants prepare for the Class E certification examination. Therefore, the target audience is those who wish to take the Class E certification examination or those who wish to gain a better understanding of distribution system networks, storage, and monitoring.

Tuesday, 8:00am-4:30pm

A PWO Committee Workshop

Moderator: Dennis Duryea, Kiski Valley Water Pollution Control Authority

Wastewater Professionals Guide to Online Process Instrumentation for Biological Nutrient Removal Activated Sludge Monitoring

This course is PA DEP approved for **6.0 wastewater contact hours**. Course ID 6423.

Instructor: Robert C. Smith, YSI, a Xylem Brand

Nutrient removal and sustainability are two of the biggest drivers in the wastewater industry today. Both demand increased automation of the activated sludge process implemented using feedback from online sensors in order to be achieved. Technology has stepped up to fill the need with a new generation of online sensors capable of monitoring at a frequency, accuracy, and reliability suitable for feedback control. However, even the best designed sensor cannot fulfill its full capabilities without proper training of the end user. Unfortunately, Operators are often left on their own to figure out how to operate and maintain these highly technical devices after the salesman or the Contractor leaves causing reduced performance and lifetime. This workshop provides participants essential information on the selection and care of online instrumentation for monitoring and control of biological nutrient removal (BNR) activated sludge. The main objective is to teach participants good practices that are essential to successful process monitoring.

PENNTEC 2019 WORKSHOP DETAILS

Tuesday, 8:00am-4:30pm

A PWO Committee Workshop

Certification Exam Study Prep Course

This course is made up of two sessions and they cannot be registered for separately. It is PA DEP approved for **a total of 6.0 wastewater contact hours may be earned**; 3.0 hours for each half day.

Wastewater General and Activated Sludge Exam Prep

This course is PA DEP approved for **3.0 wastewater contact hours**. Course ID 7995.

Instructor: Walter Higgins, US EPA

This course was developed to assist individuals who are taking the wastewater exams. This is a brief overview. Students, who have been studying for the exams, will use this course as a refresher. Students who have not been preparing for an exam can use this course to give them an idea of what they know and what they need to study. Content will include: cBOD Removal; Nitrification Fundamentals; Denitrification Fundamentals; and Chem-P and Bio-P Fundamentals. In addition to those who are taking the wastewater exams, individuals who would like to learn the basics of wastewater treatment and activated sludge would benefit from attending.

Activated Sludge/Wastewater Math Course

This course is PA DEP approved for **3.0 wastewater contact hours**. Course ID 8048.

Instructor: Christine Volkay-Hilditch, PE, BCEE, City of Lancaster

This 3-hour course on activated sludge/wastewater math includes lecture and problem solving, with an emphasis on how to use the PA DEP operator certification test formula sheet. The materials are from the 90-hour PA DEP operator certification program currently used at the community colleges.

Wednesday, 8:00-11:30am

A Laboratory Practices Committee Workshop

Moderator: Michael Henao, North Huntingdon Township Municipal Authority

Tips for PT Success

This course is PA DEP approved for **3.0 drinking water & wastewater contact hours**. Course ID 8021.

Instructor: Larissa Hoover, Cranberry Township

Tips for PT success is a class that focuses on our yearly Proficiency Testing (PT) requirements. Every year, all accredited labs are required to run a PT study and report the results. Are you struggling with your PT testing? Maybe you just want some tips to make the whole process simpler. No matter if you've run PTs for 20 years or just 1 year, there is something for everyone to learn!

Wednesday, 8:00-11:30am

A Training Committee Workshop

Troubleshooting Your Activated Sludge Process

This course is PA DEP approved for **3.0 wastewater contact hours**. Course ID 2371.

Instructor: Jim Kern, PE, Central Delaware County Authority

The course will review: the most common reasons an activated sludge plant fails; typical testing to determine performance limiting factors; and solutions to common effluent issues. This course has been expanded to include nutrient removal.



Not a member of PWEA? Go to www.pwea.org to join online or to download the membership application form. Members receive the PWEA member rate for the PennTec Conference and for PWEA training events.

Member benefits include the *Keystone Water Quality Manager*, a quarterly technical publication containing legislative updates, design/process operations articles, problem-solving case histories, and advance notice of continuing education. This valuable magazine also highlights current technology trends and issues affecting water quality.

You will also receive the monthly PWEA e-Newsletter, keeping you up-to-date on the latest water quality news and PWEA events.

If you have questions about PWEA, please contact the PWEA Administrative Office at 717-642-9500 or by email at pwea@pwea.org.

2019 WORKSHOP REGISTRATION FORM

PLEASE PRINT

Registrant Name: _____ Nickname (for badge): _____
 Organization: _____
 Mailing Address: _____
 City: _____ State: _____ Zip: _____
 Phone: _____ Email: _____
 PWEA Member #: _____ PA DEP Client #: _____ PE License #: _____
 Check here if you are a Young Professional. (Age 35 or younger; Driver's License ID required.)

Community Service Project (Sunday, 11am-3pm): I want to volunteer! Send me more info when it is available.

| | NO FEE WITH FULL PENNTEC REGISTRATION* | | FEE FOR WORKSHOP ONLY BY MAY 15 | ONSITE |
|--|--|---------------------------|--|--|
| Monday, 8:45-11:45am - A Safety Committee Workshop PA DOT Flagger Certification A DEP approved for 2.5 drinking water & wastewater contact hours | <input type="checkbox"/> \$0 | PWEA Member Non-Member | <input type="checkbox"/> \$55 <input type="checkbox"/> \$110 | <input type="checkbox"/> \$75 <input type="checkbox"/> \$130 |
| Monday, 8:45am-4:30pm - A PWO Committee Workshop Securing Drinking Water & Wastewater Treatment Facilities PA DEP approved for 5.0 drinking water & wastewater contact hours | <input type="checkbox"/> \$0 | PWEA Member Non-Member | <input type="checkbox"/> \$100 <input type="checkbox"/> \$155 | <input type="checkbox"/> \$120 <input type="checkbox"/> \$175 |
| Monday, 1:00-4:30pm - A Training Committee Workshop Wastewater Microlife Basics PA DEP approved for 3.0 wastewater contact hours | <input type="checkbox"/> \$0 | PWEA Member Non-Member | <input type="checkbox"/> \$75 <input type="checkbox"/> \$130 | <input type="checkbox"/> \$95 <input type="checkbox"/> \$150 |
| Tuesday, 8:00am-4:00pm - A PWO Committee Workshop Distribution Systems PA DEP approved for 5.5 drinking water contact hours | <input type="checkbox"/> \$0 | PWEA Member Non-Member | <input type="checkbox"/> \$110 <input type="checkbox"/> \$165 | <input type="checkbox"/> \$130 <input type="checkbox"/> \$185 |
| Tuesday, 8:00am-4:30pm - A PWO Committee Workshop Wastewater Professionals Guide to Online Process Instrumentation for Biological Nutrient Removal Activated Sludge Monitoring PA DEP approved for 6.0 wastewater contact hours | <input type="checkbox"/> \$0 | PWEA Member Non-Member | <input type="checkbox"/> \$110 <input type="checkbox"/> \$165 | <input type="checkbox"/> \$130 <input type="checkbox"/> \$185 |
| Tuesday, 8:00am-4:30pm - A PWO Committee Workshop Certification Exam Study Prep Course PA DEP approved for 6.0 wastewater contact hours | <input type="checkbox"/> \$0 | PWEA Member Non-Member | <input type="checkbox"/> \$110 <input type="checkbox"/> \$165 | <input type="checkbox"/> \$130 <input type="checkbox"/> \$185 |
| Wednesday, 8:00-11:30am - A Lab Practices Committee Workshop Tips for PT Success PA DEP approved for 3.0 drinking water & wastewater contact hours | <input type="checkbox"/> \$0 | PWEA Member Non-Member | <input type="checkbox"/> \$75 <input type="checkbox"/> \$130 | <input type="checkbox"/> \$95 <input type="checkbox"/> \$150 |
| Wednesday, 8:00-11:30am - A Training Committee Workshop Troubleshooting Your Activated Sludge Process PA DEP approved for 3.0 wastewater contact hours | <input type="checkbox"/> \$0 | PWEA Member Non-Member | <input type="checkbox"/> \$75 <input type="checkbox"/> \$130 | <input type="checkbox"/> \$95 <input type="checkbox"/> \$150 |

* To qualify for complimentary workshop registration with your full PennTec registration, attach this form to the completed registration form found on page 23.

Method of Payment Total Due: \$ _____

Check (payable to PWEA) MasterCard Visa American Express Discover

Card Number: _____ Expiration Date: _____ Security Code: _____

Name (as it appears on card): _____ Signature: _____

Billing Address (if different from above): _____

Cancellation/Substitution Policy
 No refunds granted after April 30th. A \$50 cancellation fee will be assessed on all refund requests received by April 30th. All refunds must be requested in writing. Substitutions are permitted with a \$25 per person substitution fee. Substitutions may be made until May 15th and must be made in writing, accompanied by a new registration form.

Please send completed registration form and full payment to:
 PWEA • PO Box 61 • Blossburg, PA 16912
 Fax: 570-549-2221 • Phone: 570-549-2204
 Email: cindyrock@pwea.org

NETWORKING EVENTS

Students & Young Professionals Summit

Monday, 11:45am-1:30pm

The SYP Committee invites all **New Members, Students, and Young Professionals** interested in learning about PWEA and the activities of the organization, officers, and committees to participate in the SYP Summit. This luncheon and networking event will provide the opportunity to meet experienced members of the organization and to learn how they became involved, how PWEA has helped advance their careers, and ways for new individuals to become involved today.



Pre-registration is required. There is no charge to attend.

Women in Water Summit

Tuesday, 11:30am-1:00pm

Join your fellow colleagues for the first annual Women in Water Networking Summit. This luncheon will feature networking opportunities along with a panel discussion with prominent women in the water industry to share their personal and professional challenges and successes, work/life balance, and education experiences.



Pre-registration is required. There is no charge to attend.

PWEA Annual Business Meeting

Monday, 12:30-1:00pm

Conference attendees are invited to attend and participate in the Annual Business Meeting. The Board of Directors welcomes input from everyone.



Coffee and dessert will be available during the Annual Business Meeting.

Beer & Pretzels Reception

Tuesday, 4:30-5:30pm

We will be serving complimentary beer and soft pretzels! Come to the Hall to relax and visit with the vendors.



There is no charge for this event.

President's Reception

Monday, 4:30-5:30pm

Be sure to attend the President's Reception! Enjoy complimentary beer and snacks while you network with your colleagues and the vendors.



There is no charge for this event.

Operator Olympics

Tuesday, 4:30-5:30pm

This is a fun activity based on some real Olympic events, but with a wastewater twist. Games may include:

- Bowling, using a ball from a pump and BOD bottles;*
- Plunger Toss, tossing small plungers into a bucket;*
- Golf Ball Chip, chipping golf balls into a toilet;*
- Hockey, score a goal through a toilet seat; and*
- Turd Toss, throw (plastic!) turds into a bucket.*



Can you think of a better way to spend the afternoon?

There is no charge and pre-registration is not required. This is a competitive event and prizes will be awarded.

PWEA Annual Awards Ceremony & Reception

Monday, 6:00-8:00pm

The Annual Awards Ceremony honoring your colleagues who have won prestigious state and national awards will take place during this reception, which is open to all Conference attendees. Includes hors d'oeuvres and drink tickets.



Pre-registration is required. There is no charge to attend.

PLEASE PRINT

Registrant Name: _____ Nickname (for badge): _____
 Organization: _____
 Mailing Address: _____
 City: _____ State: _____ Zip: _____
 Phone: _____ Email: _____
 PWEA Member #: _____ PA DEP Client #: _____ PE License #: _____

Check here if you are a Young Professional. (Age 35 or younger; Driver's License ID required.)
 College Students – Registration fee is waived for full-time college students if this form is submitted with a photocopy of current student identification. Social events and workshops are not included.

Community Service Project (Sunday, 11am-3pm): I want to volunteer! Send me more info when it is available.

Spouse/Life Partner Registration – A spouse or life partner who **is not in the water or wastewater industry** may register at no charge with each paid FULL Conference Registration. This registration type does not include training sessions, workshops, or ticketed events.

Name: _____ Nickname (for badge): _____

CONFERENCE REGISTRATION (Check appropriate fee.)
 Includes technical sessions, continental breakfast, lunch, receptions and access to the Exhibit Hall.

| | By March 31 | April 1-May 15 | On-Site |
|---|--------------------------------|--------------------------------|--------------------------------|
| Full Conference | | | |
| PWEA Member | <input type="checkbox"/> \$445 | <input type="checkbox"/> \$485 | <input type="checkbox"/> \$525 |
| Non-Member | <input type="checkbox"/> \$520 | <input type="checkbox"/> \$560 | <input type="checkbox"/> \$600 |
| Monday Only | | | |
| PWEA Member | <input type="checkbox"/> \$250 | <input type="checkbox"/> \$290 | <input type="checkbox"/> \$330 |
| Non-Member | <input type="checkbox"/> \$305 | <input type="checkbox"/> \$345 | <input type="checkbox"/> \$385 |
| Tuesday Only | | | |
| PWEA Member | <input type="checkbox"/> \$250 | <input type="checkbox"/> \$290 | <input type="checkbox"/> \$330 |
| Non-Member | <input type="checkbox"/> \$305 | <input type="checkbox"/> \$345 | <input type="checkbox"/> \$385 |
| Wednesday Only | | | |
| PWEA Member | <input type="checkbox"/> \$85 | <input type="checkbox"/> \$100 | <input type="checkbox"/> \$115 |
| Non-Member | <input type="checkbox"/> \$100 | <input type="checkbox"/> \$115 | <input type="checkbox"/> \$130 |
| Monday Only Student & Young Professional (SYP) Registration | | | |
| SYP PWEA Member | <input type="checkbox"/> \$160 | <input type="checkbox"/> \$200 | <input type="checkbox"/> \$240 |
| SYP Non-Member | <input type="checkbox"/> \$210 | <input type="checkbox"/> \$255 | <input type="checkbox"/> \$290 |
| Complimentary with SYP Registration – check if you will attend: | | | |
| <input type="checkbox"/> SYP Plant Tour (Tyrone Regional WWTF) | | | |
| Tuesday Only Student & Young Professional (SYP) Registration | | | |
| SYP PWEA Member | <input type="checkbox"/> \$160 | <input type="checkbox"/> \$200 | <input type="checkbox"/> \$240 |
| SYP Non-Member | <input type="checkbox"/> \$210 | <input type="checkbox"/> \$255 | <input type="checkbox"/> \$290 |
| Complimentary with SYP Registration – check if you will attend: | | | |
| <input type="checkbox"/> PWO Plant Tour (Penn State University Water Treatment Plant) | | | |

NETWORKING EVENTS
 (Indicate all events you plan to attend.)

| | Quantity | Cost | Total Due |
|---------------------------|----------|--------------------|-----------|
| Monday | | | |
| SYP Plant Tour | ___ | \$20 per person | \$ ___ |
| SYP Summit | ___ | no charge | \$0 |
| President's Reception | ___ | no charge | \$0 |
| Awards Reception | ___ | no charge | \$0 |
| Tuesday | | | |
| PWO Plant Tour | ___ | \$20 per person | \$ ___ |
| Women in Water Summit | ___ | no charge | \$0 |
| Beer & Pretzels Reception | ___ | no charge | \$0 |
| Wednesday | | | |
| Golf Tournament | | | |
| Single Golfer | ___ | \$85 per person | \$ ___ |
| Foursome discount * | ___ | \$320 per foursome | \$ ___ |

* To qualify for the foursome discount, full payment must accompany this form. Provide names, if known.

1. _____ 3. _____
 2. _____ 4. _____

Method of Payment

To qualify for the early registration discount, payment must be postmarked by March 31st.

Total Registration Fees: \$ _____

Total Ticketed Events Fees: \$ _____

Check (payable to PWEA)

Total Due: \$ _____

MasterCard

Visa

American Express

Discover

Card Number: _____ Expiration Date: _____ Security Code: _____

Name (as it appears on card): _____ Signature: _____

Billing Address (if different from above): _____

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 Email: cindyrock@pwea.org



P.O. BOX 3367
GETTYSBURG, PA 17325
WWW.PWEA.ORG



For more information, go to www.pwea.org

SAVE THE DATE

June 2-5, 2019

Why Your Employer Should Invest in You Attending PennTec 2019

1. Continuing Education Credit – earn up to **14.0** DEP contact hours for operator licenses; or up to **16.75** Professional Development Hours for professional engineer licenses
2. Find Solutions to Current Problems – regulatory issues, equipment issues, management issues, customer service issues, process issues, etc.
3. Find Ways to Do More with What Your Organization Already Has
4. Discover New & Innovative Technologies to Take Your Organization Into the Future
5. Powerful Networking Opportunities – talk with people who can save your organization money
6. Cross-Training Opportunities for Others While You Attend PennTec
7. You Can Return and Share the Information Gained from Attending PennTec