IWPC Announces Virtual Format

By Ryan Christopher, IWEA First Vice President Elect

The Illinois Wastewater Professionals Conference 2021 is a go! Due to uncertainty regarding public health, the conference will be held virtually from April 19-30, 2021. There will be morning and afternoon tracks each day, and all sessions will be recorded and available for viewing up to 60 days after the conclusion of the conference.

The Student Design Competition will be held on Friday, April 23, 2021, and the LIFT track will be on Thursday, April 29, 2021.

The keynote speaker will be Max Herzog from the Cleveland Water Alliance (CWA). CWA is an innovation engine based in northeast Ohio that generates and monetizes solutions to the greatest challenges facing Lake Erie and its watersheds.

Max is an Impact Innovation Professional dedicated to engaging diverse stakeholders in the development of tools and strategies that drive community development and resilience at the regional level. Max is currently working on next-generation water technology and intelligent water systems with the CWA. In his three years with CWA, Max has spearheaded and contributed to a number of regional innovation initiatives that activated more than 50 entrepreneurial water solutions and 100 stakeholder organizations from Windsor to Buffalo.

Continued on Page 3...
President’s Corner

By Frederick Wu, IWEA President

I would like to wish everyone a Happy New Year! If you are like me, I was ecstatic to say goodbye to 2020 and ready to welcome in the new year. I know the holiday season was probably difficult for many of us because we look forward to spending time with our family and friends and could not do so this year because of the pandemic. Still, I hope everyone was able to make the most of the holiday season and stay in touch with their loved ones.

I know many of our members are looking forward to the Illinois Wastewater Professional Conference (IWPC). IWEA and Illinois Association of Water Pollution Control Operators (IAWPCO) are excited to announce that IWPC will be held virtually this year. The IWPC planning committee is working hard to make the conference one worth attending. They are incorporating feedback from other virtual conferences to plan an incredible IWPC 2021. Please be on the lookout for more information.

In the past, the IWEA president has hosted a BBQ in the summer, but because of the pandemic, it was postponed. So, in February, IWEA will be hosting its first ever member trivia night. This will be a great opportunity to network with your fellow professionals in the most casual setting--your home. Watch for details on that too.

In closing, I want to say it has been an honor to serve as IWEA President over the past year. IWEA is in a strong position to continue to be the premier organization to educate Illinois wastewater professionals.
As program manager, he coordinates the bi-national ecosystem of partners that drive the Water Alliance’s cluster of programs and technologies.

The Water Environment Federation (WEF) representative will be Aimee’ R. Killeen. Aimee’ is a member of the 2020-21 Board of Trustees for the WEF. Aimee’ is currently a company leader for Providence Engineering and Environmental Group LLC in Baton Rouge, Louisiana.

Aimee’ spent five years serving WEF in the House of Delegates as a representative of the Louisiana Water Environment Association. During that time, she served as Speaker of the House of Delegates, chaired the Outreach Committee and has been an active member of numerous WEF committees.

Aimee’ has been working in the water profession for more than 21 years, including 10 years as a state regulator. She is a 1997 graduate of Louisiana State University.

The program registration and the full conference schedule will be available in February.

Visit the IWPC website for the latest information at https://illinoiswpc.org.

We look forward to “seeing” everyone there.

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**Save the Date!**

**FEBRUARY 17, 2021 | 12:00 pm - 1:00 pm**

**Joint IWEA/IWWSG Industrial Pretreatment Workshop >**

**Conducting Industry Inspections: INEOS Nitriles**

Join us for a virtual industrial inspection of INEOS Nitriles in Aurora. Dave Mayzac will provide an overview of their processes in a video tour as we go on an inspection with Mike Tucker from Fox Metro Water Reclamation District.

$15/members IWEA or IWWSG $30/non-members.

Diversity and inclusion (D&I) has been part of the strategic goals of the Water Environment Federation (WEF) since the goals were adopted in 2011 and subsequently amended in 2018. Specifically, the focus has been to increase diversity and inclusiveness in the water sector through engagement and membership growth, and promote sector-wide action toward development of a water workforce that is diverse and prepared to meet the future needs of the water sector.

In light of the “awakening” of the social injustice and racism that still exists in today’s society, a WEF House of Delegates workgroup on Diversity, Equity and Inclusion (DE&I) has been established to develop resources, guidance documentation, and toolkits to help Member Associations (MAs) develop or enhance their DE&I programs, including InFLOW (Introducing Future Leaders to Opportunities in Water)*.

In the coming months, the DE&I workgroup will:

- Work with the WEF DE&I subcommittee to develop a DE&I strategy for MAs
- Collect current DE&I program information from MAs
- Work with and collect data for the WEF DE&I consultant
- Gather data from MAs with InFLOW programs
- Document which MAs currently have an InFLOW program and document their lessons learned
- Document what MAs value from WEF related to the MA’s InFLOW programs
- Collaborate with WEF staff to create an InFLOW toolkit
- Find or create a place to store InFLOW resources
- Brainstorm ways to bridge gaps between the WEFTEC InFLOW program participants and their local MAs
- Complete tasks assigned by the WEF DE&I Subcommittee
- Determine if this workgroup should be a permanent HOD committee

As the DE&I workgroup moves forward, I will periodically provide you an update on progress made. Stay tuned!

*DID YOU KNOW?
The InFLOW (Introducing Future Leaders to Opportunities in Water) program is a WEF scholarship program with the mission to enhance diversity and inclusion in the water workforce by encouraging students in our communities to consider careers in the water sector.

The program was inaugurated in WEFTEC 2018 and it is intended to engage students of underrepresented ethnic and racial groups to:

1. Solidify their interest in working in the water sector; and
2. Increase probabilities for employment and long-term success working in the water sector

IWEA is one of the first MAs to introduce the program during the Illinois Water Professional Conference in 2019.

LOOKING TO GET INVOLVED?
IWEA has just formed a new Diversity & Inclusion Committee and is seeking members. Email csmith@stcharlesil.gov for more information.

By Kam Law, Delegate 2020-2023
Workshop Explores AIWEN
By Fenghua Yang, LIFT Subcommittee Chair

The IWEA IWS subcommittee, together with a group of prestigious academic/industry entities, served as a partner for an invite-only workshop on February 3 entitled "Transforming the Water and Wastewater Industry Through Artificial Intelligence."

The presentation introduced the National Science Foundation (NSF) Industry-University Cooperative Research Center (IUCRC) on Artificial Intelligence - Enabled Water-Energy Nexus (AIWEN). This new center will transform the water and wastewater industry by integrating artificial intelligence (AI) and machine learning (ML) into next-generation water-energy technologies, products, services, and utility operations to gain significant economic, energy, and environmental benefits while tackling the U.S. Water Security Grand Challenge. The center will be led by the University of Chicago, in partnership with Washington University in St. Louis, Northwestern University, University of Wisconsin-Milwaukee, Marquette University, and Argonne National Laboratory.

It will build upon the NSF IUCRC on Water Equipment and Policy (WEP), a successful industry-research partnership, but will expand its scope to include AI/ML and the water-energy nexus. During this workshop, the center partners showcased their research activities in the area of AIWEN. For additional information about this center, please contact Ms. Fenghua Yang (yangf@mwrd.org)

Slide submitted by Fenghua Yang

Upcoming Events

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<tr>
<th>IWEA Calendar of Events</th>
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<tbody>
<tr>
<td>Date</td>
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<tr>
<td>April 19, 2021</td>
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<td>April 19-30, 2021</td>
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Please see www.iweasite.org to register for events.
DuPage County Outreach Goes Virtual!

In light of gathering restrictions throughout 2020, DuPage County Stormwater Management had to pivot their water quality training and outreach efforts, which they do on a countywide basis, from primarily in-person to entirely remote. Beginning in April, all planned seminars, workshops, and events went virtual, as well some new outreach opportunities.

Throughout the year, DuPage County sponsored 14 trainings and virtual events, which included general residential webinars, technical trainings for municipal workers, and workshops for both groups. The online events featured speakers from both inside and outside of DuPage County, including out-of-state attendees, since travel costs were no longer a factor. Overall, attendance at the virtual events met the numbers of previous years’ in-person events.

In addition, DuPage County developed 25 brief training videos highlighting various ways to reduce pollutants reaching local waterways. Ten of the videos are geared towards residents and businesses, while the other 15 are targeted at municipal and county staff to properly meet the Environmental Protection Agency’s National Pollutant Discharge Elimination System (NPDES) mandates. Partner communities also share residential videos through social media, e-newsletters, and websites to help reach the county’s nearly one million residents, as well as fulfill NPDES requirements.

These videos, as well as recorded webinars and other virtual content such as a tour of DuPage County’s Elmhurst Quarry Flood Control Facility, are available for public consumption on the Stormwater Management Department’s YouTube channel (Live Blue. Live Green.), which is located at www.youtube.com/user/lovebluelivegreen.

DuPage River/Salt Creek TMDL Report Released

On October 7, 2020, the Illinois Environmental Protection Agency (IEPA) released the DuPage River/Salt Creek Watershed Total Maximum Daily Load (TMDL) Report. The Clean Water Act requires TMDL’s to be developed for 303(d) listed waterways when the installation of the required minimum levels of pollution control for point sources of pollution have failed to move the waterways off the list. The report covered fecal coliform, chloride, and dissolved oxygen (DO) in 16 impaired segments of the DuPage/Salt Creek river systems which flow south from northern Cook County through DuPage County and into the Des Plaines River.
Notable in these TMDLs was the level of cooperation between the IEPA and local watershed groups in their development. First, by mutual agreement of the parties, several pollutants were eliminated from the analyses due to insufficient data documenting exceedances. Additionally, both the IEPA and the local watershed groups (DuPage River Salt Creek Workgroup (DRSCW) and Lower DuPage River Watershed Coalition (LDRWC) had concerns about populating the models used in developing the remaining pollutants and reaches, particularly those for DO.

To deal with these concerns, both parties took on additional tasks. IEPA took on the collection of sediment oxygen demand (SOD) for the West Branch and main stem of the DuPage system, adding to East Branch DuPage River SOD data already collected by the DRSCW for earlier TMDLs. SOD had been shown to be critical to understanding the DO regime in the riverine system, so its measurement was considered critical to empirically grounding the models. For its part, the watershed groups used their staff and data sondes to collect data on channel morphology, weather conditions, flow and continuous DO, pH, temperature, and conductivity data at multiple sites.

The TMDL report included estimated reductions needed to mitigate water quality concerns throughout the watershed and included an adaptive management component focused on NPDES permit renewals where more restrictive effluent limits may be necessary. The recommendations in the TMDL focused on the priority activities being conducted by the DRSCW and LDRWC and opened the door for new sources of funding, specifically grants through the Clean Water Act Section 319 program.

This additional information and effort greatly increased the confidence in the modeling effort and produced a product considerably more acceptable to local regulated entities. Both entities would like to thank IEPA for their openness to cooperation and suggestions on the development of the TMDL.

The final report is available on the agency’s website: https://www2.illinois.gov/epa/topics/water-quality/watershed-management/tmdls/Pages/reports.aspx.
Plant Profile
By Lee Melcher, Plant Operations Committee Member and President Elect

Location
Yorkville-Bristol Sanitary District

Executive Director:
Cyrus McMains, PE

Plant Manager:
Jeff Niles

Plant Engineer/Assistant Manager:
Lee Melcher, PE

The Yorkville-Bristol Sanitary District’s (YBSD) mission is to provide wastewater transportation and treatment services for residents within the facility planning area. The YBSD is a forward-thinking organization whose guiding principles are to:

- Meet the needs of the present without compromising the ability to meet the needs of future generations
- Serve as good stewards of the environment and community resources
- Support a safe, healthy, and lifelong community

The YBSD is an independent municipal corporation under the provisions of the Illinois Sanitary District Act of 1917. The formation of the YBSD was authorized by referendum at the elections of December 27, 1954. The trustees for the YBSD are Brent Ekwinski, Mark Luettich, and Kurt Muth.

The YBSD has one wastewater treatment plant that is designed to serve a population equivalent (PE) of 36,200 people. The present PE is about 23,000. The plant was originally constructed in 1957, with major expansions or improvements in 1972, 1990, and the most recent in 2001. The last expansion was undertaken to accommodate population growth. The major components of this expansion included an aeration battery, a final clarifier, UV disinfection, a gravity belt thickener, and an autothermal thermophilic aerobic digestion (ATAD) process.
In 2009, utilities to accommodate future expansion were routed under Blackberry Creek. However, due to the economic recession in 2008-2009, the plant was not expanded. Continued evaluation of influent loadings in 2014 indicated that the existing activated sludge system would reach 80 percent of organic capacity within a short period of time. To allow for additional organic treatment capacity within the existing footprint and to delay the need for a major expansion, a Membrane Aerated Biofilm Reactor (MABR) was added. The first phase of the MABR project was fully commissioned in 2018. Currently, the YBSD is undergoing planning and design efforts to meet 2040 projections and nutrient requirements.

Collection System and Service Area
The boundaries of the YBSD encompass an area greater than 10 square miles. The facility planning area is 33.8 square miles, and the estimated planned ultimate area to be served is approximately 50 square miles. The YBSD owns approximately 13.5 miles of interceptor sewers ranging from 18-42 inches. The City owns and maintains sewers smaller than 18-inches.

Preliminary Treatment and Raw Wastewater Pumping
Two raw sewage pumping stations serve the plant. Normally, flow is routed to the main pumping station but will flow to the secondary pump station during times of excess flow. The main pump station consists of screening and pumps: two mechanically-cleaned screens provide 6 mm screening at the main pump station. The total screening capacity is 23 mgd. The main pump station has four WEMCO-Hidrostal "pre-rotation" pumps. Three of the pumps utilize variable frequency drives and one utilizes a two-speed motor. These pumps each offer a pumping capacity of 2.7 mgd. The secondary pump station has two manually-cleaned bar screens and two dry-pit pumps, each rated at 3.0 mgd. With one of the largest pumps out of service at both stations, the rated capacity is 13.8 mgd.

Flow from the stations is conveyed to the grit/screen building which is equipped with rotary drum fine (1 mm) screens. These screens remove particulate debris from the wastewater, including biochemical oxygen demand (BOD) and total suspended solids (TSS). Each screen has a capacity of 7 mgd, for a total capacity of 14 mgd. Following each screen is a compacting unit that further reduces the water content of the screenings. The process removes about 27 cf of screenings per day that are sent to landfill.

Secondary Treatment
The activated sludge system has 10 tanks totaling 185,130 cubic feet (1,384,772 gallons) for a hydraulic retention time (HRT) of 9.18 hours at the DAF of 3.62 mgd. The permitted organic loading for this system is at 25.7 lb/1000 cf for a total organic capacity of 4,751 lb/day.

The system is currently operated to promote biological phosphorus removal and enhanced nitrification. To achieve this, the first tank is operated under anaerobic conditions. This zone promotes the release of phosphorus from Polyphosphate Accumulating Organisms (PAOs) and subsequent uptake from aerated zones of the system. Return Activated Sludge (RAS) is introduced at the head of this zone. The second tank/zone is operated under anaerobic/anoxic conditions and contains the MABR. This technology employs a gas permeable media to deliver oxygen to a biofilm that is attached to the surface of the media. Oxygen is delivered to the biofilm by diffusion without the use of bubbles, allowing the bulk solution to remain mostly
anaerobic. Ammonia and other organics diffuse from the bulk solution into the biofilm where bacteria in the biofilm remove them. The remaining eight tanks are aerated to promote phosphorus uptake, along with BOD and ammonia removal. The plant has three final clarifiers: two 65-foot diameter and one 90-foot diameter. The design surface area settling rate for these units is 800 gallons per day (gpd) for a total capacity of 10.4 mgd. Alum is introduced upstream of the clarifiers to aid in soluble phosphorus removal. Particulate matter and biomass settle and are returned to Tank 1 or wasted from the system.

**UV Disinfection**
The effluent to the Fox River is disinfected with UV light before being discharged. The design of the system provides 40,000 watt-seconds/cm² and an eight-second contact time at DAF. The equipment is contained in one channel and will accommodate a flow of 10.46 mgd.

**WAS Thickening**
The WAS is pumped from the RAS airlift boxes to a holding tank. The holding tank has a capacity of 133,144 gallons or 2.7 days at an average rate of 50,000 gal/day. The WAS is pumped to a two-meter GBT, and then re-pumped to the ATAD. Polymer is added as the WAS enters the GBT to aid in thickening. The thickener generally produces 5-6 percent solids at an average flow of 250 gpm.

**Autothermal Thermophilic Aerobic Digestion (ATAD)**
The ATAD reduces the volatile solids and removes pathogens from the thickened WAS. Two thermophilic units with an HRT of 6.12 days provide sludge stabilization. The stabilized sludge is then transferred to a storage nitrification/denitrification reactor (SNDR) where the solids are conditioned for 22.1 days. The SNDR provides nitrification and denitrification, decreases ammonia and COD load to dewatering, and allows some uptake of soluble phosphorus. The design loading of thickened WAS to the ATAD is 10,260 gpd at a concentration of 5% solids. The digesters reduce the volatile solids up to 70 percent. The cooled and stabilized sludge is then dewatered for disposal.

**Solids Dewatering**
Dewatering is accomplished with centrifuges. Two centrifuges are installed, however, only one operates at a time. The...
centrifuges are designed for an average feed rate of 90 gpm. The centrifuge design loading is at 19,474 pounds per week of dry solids. Currently, one centrifuge is operated twice a week for approximately six hours a day. The average feed rate is 60 gpm. Alum and polymer are added prior to the centrifuges to aid in producing 26 percent solids on average. Centrate is returned to the head of the plant and contains relatively high amounts of ammonia and phosphorus compared to the raw influent. Alum is added to the centrate to control slug loads of soluble phosphorus to the head of the plant and minimize effluent TP variability.

YBSD prides itself on maintaining a clean and efficient plant. We owe this to the dedication of our staff who are directly responsible for the success of the district: Nate Hemmingsen, Brad Eade, Josh Haggard, Renee Farren, and Adam Feltes. Thank you to IWEA for allowing YBSD to showcase our organization.

**TRIVIA ANSWER!**

Four parameters:
- \( \text{WLA} = \text{Waste Load Allocation (loading from point sources)} \)
- \( \text{LA} = \text{Load Allocation (loadings from nonpoint sources including natural background)} \)
- \( \text{MOS} = \text{Margin of Safety} \)
- \( \text{RC} = \text{Reserve Capacity} \)

Source: [https://www2.illinois.gov/epa/topics/water-quality/watershed-management/tmdls/Pages/what-is-a-tmdl.aspx](https://www2.illinois.gov/epa/topics/water-quality/watershed-management/tmdls/Pages/what-is-a-tmdl.aspx)

Currently, the Diversity and Inclusion Committee is preparing content for the 5 Languages of Appreciation in the Workplace webinar this spring with a date to be set in the next few weeks. Determining team member language and how to use the information effectively has been proven to be crucial for employee retention and loyalty.

We also invite you to add your voice to IWEA's Diversity and Inclusion Committee! We all benefit when backgrounds, cultures, and experiences come together. Everyone is welcome. Together we stand stronger and smarter. Email csmith@stcharlesil.gov to be included in the next meeting.

**Treasurer's Report**

IWEA’s financial position remains strong. At the conclusion of the second quarter of fiscal year 2021, IWEA has realized a net income of $1,384. A quick pivot to virtual programming has salvaged income from traditional in-person seminars, while minimizing expenses associated with venue rentals and meals.

IWEA is maintaining healthy balances in all its accounts. IWEA’s certificate of deposit has been renewed in January.
Nutrient Removal & Recovery Workshop

By Matthew Schiltz, Nutrient Removal and Recovery Committee Vice Chair

On November 19, the Nutrient Removal and Recovery Committee held the second of two virtual sessions for its year 2020 workshops. Based on the feedback received, the webcasts were a success. Although we missed seeing you in-person, participants still enjoyed interesting presentations, the ability to engage in Q&A, and interacting through live polls. Thanks to all who helped organize and hold the webinars, and a special thanks to the speakers (listed in order of presentation):

- Jose Jimenez, Brown and Caldwell
- Joel Ilseman, Fox Metro Water Reclamation District
- Mark Halm, Deuchler Engineering Corporation
- Trevor Ghylin, Energenecs/Microbe Detectives
- Kim Van Meter, University of Illinois at Chicago
- Cindy Skrukrud, Sierra Club, Illinois Chapter
- Lance Schideman, University of Illinois at Urbana Champaign

On another topic, the committee is seeking new members. If you are interested, please contact the committee chair, Matt Schiltz (SchltzM@mwrld.org), for an application or any questions. Applications, with a resume, are due to Matt by Friday, February 26. The committee expects to make decisions on applications by the end of March 2021.
Every year, the Water Environment Federation (WEF) hosts a national Student Design Competition (SDC) where student teams from around the country present unique and thorough solutions for environmental and wastewater challenges. Having the SDC at our member association level allows IWEA to send a team to the WEFTEC competition.

Last year, the IWEA winning team, including Yechan Won, Haley Lewis, and Haotian Cai from Northwestern University, virtually presented the paper and presentation Membrane Bioreactor System for a Local Brewery: Process Design and Cost Analysis with a Novel Approach to Membrane Fouling Control and placed third in the national competition.

The 2021 IWEA SDC will take place virtually on Friday, April 23, during the 2021 IWPC. For the IWEA competition, the teams each choose their own problem statement with the aid of a faculty sponsor. The problem could be either in the environmental or wastewater category (the appropriate category will be chosen for the national level). Students then work to develop a solution to the problem by applying their classroom knowledge to real-world settings. Papers are submitted ahead of time and presentations summarizing the reports are given at the IWPC. A panel of judges will score both and provide feedback to the teams. One team will be selected to represent IWEA on the national level and awarded a cash prize.

If you are interested in more information, please contact leflery@mwrd.org for participation guidelines. Abstract deadline is February 12th!

New Member Spotlight: Julie McMullin

Submitted by Lou Storino, IWEA Treasurer

How many years have you been working in the Water Sector?
23 years.

How did you start/choose to work in the Water Sector?
I started as an intern in the stormwater department of a consulting firm. Eventually I left that firm and migrated more into work on collections systems and infiltration and inflow (I/I) mitigation when I joined Brown and Caldwell.

What excites you about the water sector?
I like helping the environment and communities. While not glamorous, I feel like my work really helps the common good, by keeping the water cleaner and preventing basement flooding.

Fun fact about you?
I have minors in French and Music. Years ago, I sang with the Milwaukee Symphony Chorus and the Chicago Symphony Chorus at Ravinia.

Favorite quote?
Carpe Diem

Strangest job you have ever worked?
Home health care assistant

Advice for someone who may want to pursue a job/career in the water sector?
The water sector is a great way to really make a difference in improving the quality of peoples’ lives and the environment. Plus, there is good job security as long as we continue to use toilets!
The Nominating Committee considered candidates for the Executive Board for 2021-22. Following is the slate of officers recommended for the upcoming year that will be voted on by the IWEA membership during the general meeting at IWPC 2021.

President > Lee Melcher

Lee Melcher is a plant engineer and assistant manager at the Yorkville-Bristol Sanitary District and holds a B.S. in Civil Engineering from the University of Illinois and a B.S. in Physics from Western Illinois University. He served in the Army National Guard for six years while attending college and was honorably discharged at the rank of sergeant. Lee has been in the engineering field for 18 years and has worked on a wide range of projects and programs in the water and wastewater industry.

Lee has been a member of WEF since 2007 and has been active in IWEA throughout the years. He served as the chair for the Plant Operations Committee from 2012 - 17 and has been a member of the Golf Committee since 2015. Lee has also committed his time to IWEA by organizing annual events through the Plant Operations Committee, presenting papers, moderating technical sessions, assisting with the Operator's Challenge and authoring articles for the Clarifier. In 2018, Lee became a member of the Select Society of Sanitary Sludge Shovelers (15S).

Vice President > Ryan Christopher

Ryan Christopher is an associate at Greeley and Hansen and holds a B.S. in Civil Engineering from Purdue University. Ryan has worked on a wide variety of water and wastewater projects throughout the country. He is a member of WEF and serves on the Residuals and Biosolids Committee.

Ryan has been active in IWEA throughout his career, beginning with his membership in the Students and Young Professionals Committee. From there, he took an active role in the Biosolids Committee and became the committee chair in 2016, prior to joining the Executive Board in 2019.
First Vice President > Kelly Lockerbie

Kelly Lockerbie is a process engineer at Donohue & Associates, Inc. and has a variety of experience in the planning and design of water and wastewater treatment facilities. Kelly holds a B.S. in Civil/Environmental Engineering from Iowa State University.

Since joining WEF and IWEA in 2014, Kelly has played an active role in the organization. She served as the IWEA Students and Young Professionals Committee Chair from 2015 – 18 and was the IWEA Awards Committee Chair from 2019 – 20. Kelly has also been an active member of the IWEA Biosolids and Resource Recovery Committee and IWEA Membership Committee, as well as the WEF Municipal Resource Recovery Design Committee and Fundamentals Outreach Subcommittee. Kelly has served on the IWEA Executive Board since Spring of 2020 and is excited to continue to be a part of this community of dedicated water professionals.

Second Vice President > Nate Davis

Nate Davis is a water resources project manager/engineer for Crawford, Murphy and Tilly out of the Springfield office. Nate holds a B.A.Sc. in Civil Engineering from Bradley University. He is an active IWEA member, joining the organization in 2008 and WEF in 2011. He is currently the chair of the Government Affairs Committee, where he has successfully planned and implemented the popular Government Affairs Conference.

Nate is also a member of our Collections Systems Committee. Nate also completed WEF’s Water Leadership Institute, a program aimed at educating, training, and providing opportunities that enable developing and emerging leaders to build strong and lasting relationships within the water industry. Over the years with IWEA, Nate has volunteered in various capacities. He also writes the Capitol Currents article of the Clarifier newsletter.
Virtual Operations Challenge Lab Event at WEFTEC 2020

By Keith Richard, Laboratory Committee Chair

There is a saying that no matter what happens, the show must go on. That was the case for the Operations Challenge at WEFTEC 2020, which was still held despite the entire conference being virtual this year. Unlike any previous Operations Challenge, this year’s event was completely virtual with the teams competing at their own locations while being observed by judges watching them on a live stream video.

Due to the limitations of this format, the lab event was pared back to just one analysis. The teams were required to calibrate a benchtop meter, perform a total dissolved solids analysis on secondary effluent and final effluent samples and then calculate the final results. The calculated results were used to estimate solids loading, removal rates, and solids-related process problems within a theoretical treatment plant. All the steps had to be completed as quickly and accurately as possible under the watchful eyes of the judges, who were watching from hundreds, or even thousands of miles away. The competitors included 28 teams from all around the world, including teams from Canada and Denmark.

I served as a judge for the lab event on the second day of competition. It was a surreal experience to judge the event from Illinois, along with a judge in Nevada, while the teams competed remotely in South Carolina, Ontario, and Colorado. There were two cameras for the judges to watch: one showing the entire bench and one focused directly on the benchtop meter. I included a few screenshots of my view of the competition. It was quite challenging to keep a close eye on the competitors with only two small video screens, but we judges did our best given the circumstances.

The winners of the lab event were “WEA of Texas Pooseidons” in Division 1, “Virginia WEA Blueridge Brawlers” in Division 2, and “WEA of Ontario Peel Wastewater Connoisewers” in Division 3.

Hopefully we will get to do this all in person next year in Chicago at WEFTEC 2021!
**New Guidance for the Financial Capability and Affordability of Clean Water Compliance**

On January 12, 2021, The United States Environmental Protection Agency (USEPA) finalized their 2021 Financial Capability Assessment (FCA) for the Clean Water Act Obligations guidance document. This document provides guidance on the development of implementation schedules based on a community’s financial ability to carry out the improvements without undue impact on ratepayers of all classes.

The new guidance document is an update to replace the prior EPA Combined Sewer Overflow (CSO) Guidance for Financial Capability Assessment and Schedule Development (1997) and the EPA Interim Economic Guidance for Water Quality Standards (1995). Many groups had been critical of the prior guidance, arguing that it lacked full consideration of the many unique economic circumstances that can be encountered across the nation.

Significant correspondence started to take place between USEPA and the U.S. Council of Mayors on this topic in 2011, along with WEF, NACWA, and others. USEPA released their Integrated Planning Framework in 2012, followed by a new memorandum/framework document in 2014 intended to “provide additional examples and greater clarity on flexibilities built into the existing guidance the local governments or authorities can use in assessing their financial capability.” The dialogue between stakeholders and USEPA continued since that time and ultimately led to the new 2021 guidance document.

USPEA states that the new guidance is intended to “advance the ability of communities to more accurately demonstrate the financial burdens they face and increase the transparency of USEPA’s considerations as it endeavors to consistently apply FCA methodologies across the country.” The new guidance document allows for two methods of assessment. The first option is a modified version of the 1997 methodology with new considerations relating to poverty, costs, and income stratification. The second option allows the community to develop more detailed and dynamic models of its rates and the impacts on its customers.

The guidance document itself is available for download on USEPA’s Water infrastructure and Resiliency Finance Center webpage. The document contains a detailed discussion of both of the two methods of assessment and guidance on how to complete them. Also included are examples and templates to aid in the development of the assessment.
Welcome New Members!
By Anthony Giovannone, Membership Committee Chair

NOVEMBER 2020
Terry Auchstetter, Bodine Electric Company
Jennifer Aurandt-Pilgrim, Marquis Energy
Floyd Beaty, MWRD
Jacques Bernabe, CB&I Storage Solutions
Katie Cassou, Cyclopure, Inc.
Duncan Dickinson
Paul Hsiung, Innovyz
Jack Hughes, Mullarkey Associates
William Johnson, Flagg Creek Water Reclamation District
Paul Keturi, Peoria Sanitary District
Thomas Minarik, MWRDGC
Mike Mulcahy, Drydon
Marty Mullarkey, Mullarkey Associates
Yumeko Ogawa, JETRO
Jyoti Rao, Lake Forest College
Karen Rogan, Mullarkey Associates
Alfred Saucedo, MWRD
Noah Scalero, Greater Egypt Regional Planning and Development Commission
Matt Sheerin, Mullarkey Associates
Coleen Theisen, Mullarkey Associates
Kendall Wilson
Iana Wolff

DECEMBER 2020
Saad Alhajeri, American Bottoms Treatment Plant
Daniel Hughes
John Joiner
Travis Lieter, American Bottoms Wastewater Treatment Facility
Charlie Rotman, InfoSense
Ranjita Tiwari, Geosyntec
Delores Walton, MWRD

JANUARY 2021
Laura Drumm, AECOM
Jack Everett, RJN Group
Walter Pochron, GHD
Eric Stein, GZA GeoEnvironmental, Inc.
Michael Sutter, Northern Plant Services
Scott Tomkins, Living Waters Consultants, Inc.
# 2020-2021 Executive Committee

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<th>Position</th>
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