Colorado Team Wins 2019 LIFT Intelligent Water Systems Challenge
Teams from Chicago and Pima County, Arizona take second, third place

ALEXANDRIA, Va. – A team representing the City of Boulder, Colo., won the 2019 Intelligent Water Systems Challenge for a project that used aeration control to maximize the efficiency of biological nutrient removal.

The winning project, titled "Predictive Modelling and Performance Assessment of Ammonia-Based Aeration Control," was announced at WEFTEC, the Water Environment Federation's Technical Exhibition and Conference, in Chicago and earned the team a $10,000 prize. The interdisciplinary team included:

- Christopher Marks, City of Boulder, Colo.
- Tzahi Cath, Colorado School of Mines
- Mandy Hering, Baylor University
- Kathryn Newhart, Colorado School of Mines
- Tanya Rauch-Williams, Carollo Engineers

As water resource recovery facilities face increasingly stringent regulatory limits, the team focused on aeration control as having the widest and largest potential for efficient biological nutrient removal. The team used model predictive aeration control, an alternative approach that uses real-time process data to continuously predict process conditions to allow for proactive control adjustments.

The Intelligent Water Systems Challenge is hosted by the Leaders Innovation Forum for Technology (LIFT), a joint effort of the Water Environment Federation (WEF) and The Water Research Foundation (WRF). The competition challenged students, professionals, and technology experts to use innovation and data to help solve some of the most difficult issues facing water and wastewater utilities. Now in its second year, the challenge began in April and 53 participants across nine teams addressed real-world problems.

"The Intelligent Water Systems Challenge provides a unique showcase for water sector innovation and collaboration," WEF Executive Director Walt Marlowe said. "This year's

challenge was an impressive show of knowledge and talent and we are proud to support this effort to help foster the adoption of smart water technologies."

Second place went to the team from the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC). Their project was titled "Developing Advanced Models to Optimize Chemical Dosage for the Odor and Corrosion Control at James C. Kirie Water Reclamation Plant." Team members included:

- •Fenghua Yang, MWRDGC
- •Xing Fang, Illinois State University
- •Kyle Francq, Illinois State University
- •Matthew Jurjovec, MWRDGC
- •Thais Pluth, MWRDGC
- •Yongning Tang, Illinois State University

Third place went to the team from Pima County, Ariz. Their project was titled "Tres Rios Water Resource Facility Energy Reduction Roadmap." All team members represented the Pima County Regional Wastewater Reclamation Department and included:

- •Jeff Prevatt
- •Allan Anthon
- •Barry Holbert
- •Timothy Mason
- •Dean Moulis
- •Larry Sawicki

The Intelligent Water Systems Challenge was sponsored by The Water Council, and was also supported by the American Water Works Association (AWWA), the Smart Water Networks Forum (SWAN), the International Society of Automation's (ISA) Water and Wastewater Division, Cleveland Water Alliance, The International Water Association, and the Water Technology Acceleration Project (WaterTAP).

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About WEF
The Water Environment Federation (WEF) is a not-for-profit technical and educational organization of 35,000 individual members and 75 affiliated Member Associations representing water quality professionals around the world. Since 1928, WEF and its members have protected public health and the environment. As a global water sector leader, our mission is to connect water professionals; enrich the expertise of water professionals; increase the awareness of the impact and value of water; and provide a platform for water sector innovation. To learn more, visit http://www.wef.org.

About WRF
The Water Research Foundation (WRF) is the world's leading research organization advancing the science of all water to meet the evolving needs of its subscribers and the water sector. WRF is a nonprofit, educational organization that funds, manages, and publishes research on the

technology, operation, and management of drinking water, wastewater, reuse, and stormwater systems—all in pursuit of protection of public health and the environment. WRF represents approximately 1,200 subscribers, hosts an online research library of more than 2,300 completed projects valued at $700 million, manages an innovation platform (LIFT Link) with a database of more than 140 innovative technologies, and supports the world's largest body of stormwater best practice data. For more information, visit www.www.waterrf.org.
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