

RI WRC Newsletter

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Message from the Director Rhode Island Water Resources Center



Dr. Leon Thiem, Director

During fiscal year 2017 the Rhode Island Water Resources Center will be providing funding to two research projects and one education project.

Current Projects and Activities

Professor Vinka's funded research study will investigate the presence of microplastics in small utilities and wells. Professor Goodwill will investigate treatment methods for treating water contaminated with toxins from harmful algal blooms (HABs) using ferrate oxidation. Professor Hunter will continue his Summer Water Academy for high school students.

The RI Water Resources Center will be hosting a Clean Water Symposium with speakers from the US EPA, Providence Water and the Rhode Island Department of Health. The Symposium schedule follows:

RHODE ISLAND CLEAN DRINKING WATER SYMPOSIUM

March 22, 2018
Thursday 1:00 PM to 4:30 PM

SCHEDULE

1:00 PM to 1:20 PM : Welcome
Raymond Wright, Ph.D, P.E, Dean, College of Engineering

1:20 PM to 1:30 PM : Introduction
"Rhode Island Water Resources Center Accomplishments", Leon Thiem, Ph.D., P.E., Director, RI Water Resources Center

1:30 PM to 2:10 PM : Keynote speaker
"Water Technology Innovation in New England", Maggie Theroux Fieldsteel, Innovative Technology Specialist, US EPA

2:10 PM to 2:25 PM : Coffee Break

2:25 PM to 3:00 PM : Session 01
"Drinking Water Quality Challenges: Providence Water", Stephen Soito, P.E., Senior Manager – Water Supply, Providence Water

3:15 PM to 4:00 PM : Session 02
"Drinking Water Quality Challenges: State of RI", Amy B. Parmenter, Hydrogeologist, RI-DOH

4:00 PM to 4:30 PM : Poster session

Assessing Microplastic and Microfibers Contamination in Small Water Utilities and Private Wells

by *Vinka Craver*

Few studies have focused on the presence of microplastics in the water from small water utilities and private wells. Moreover, most studies have focused on particles larger than 33 microns and only few studies have focused on the nano scale which can have higher negative impacts in aquatic



Dr. Craver, PI

organisms. Therefore, the goals of the proposed study are: 1) determine the concentration of microplastics in small water utilities and private wells in South Kingstown, RI, and 2) in the case of small water utilities determine any variations of microplastic concentration and composition throughout the distribution system.

Assessment of Ferrate for Treating Drinking Water Sources Impacted by Harmful Algal Blooms

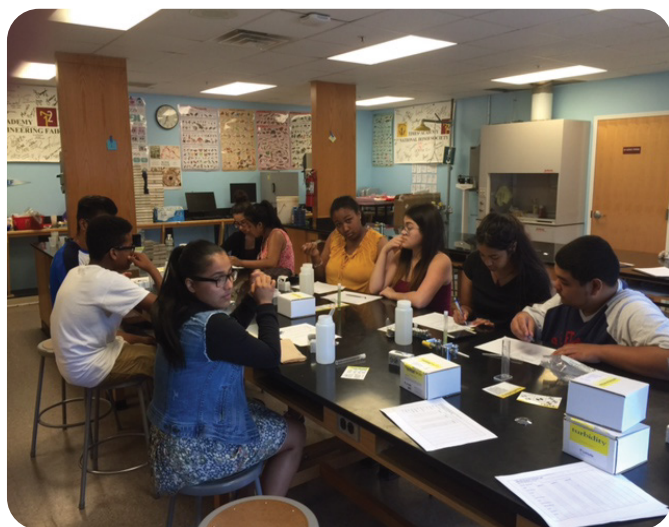
by *Joseph Eugene Goodwill*

The production of algae in surface waters is a major threat to water quality, aquatic ecosystems, and public health, especially when these surface waters serve as sources of municipal drinking water. In Rhode Island, numerous harmful algal blooms (HABs) were reported in 2016 and



Dr. Goodwill, PI

2017 including surface waters that are sources of drinking water to local municipalities. A common option for treating algae in a drinking water context is preoxidation. Ferrate (Fe(VI)) is emerging as an alternative to ozone and permanganate preoxidation due to several major advantages. However, data related to Fe(VI) and HABs is relatively scant, and so its potential use is poorly informed. The overarching objective of this proposal is to gain a better understanding of the use of ferrate oxidation for HAB mitigation, and build towards its potential use as an intermittent solution to risk reduction due to HABs in RI surface water systems. By comparing ferrate to published results of other oxidants, results from this work will also build a guidance framework for other water systems for oxidative treatment of HABs.



Summer Camp: Laboratory

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