

# Freshwater HABs Newsletter

## [EPA Awards Grants to the New Jersey Institute of Technology for Innovative Technology Project on Cyanotoxins Removal](#)

On March 18<sup>th</sup>, the EPA announced the 21 teams of undergraduate and graduate students across the country receiving funding to develop sustainable technologies to help solve environmental and public health challenges through its People, Prosperity, and the Planet (P3) grants program. Grantees from the New Jersey Institute of Technology at Newark will work on the project: *Development of Reactive Nanobubble Systems for Efficient and Scalable Harmful Algae and Cyanotoxin Removal*. To learn more about the P3 research projects, visit the EPA website [here](#).

## [Preliminary Report on Air Sampling of Particle-Associated Microcystins and BMAA, Pilot Study in Lee County, Florida: Fall 2018 – Winter 2019](#)

The Florida Gulf Coast University (FGCU) researchers funded by NOAA HAB Event Response program has successfully piloted an air sampling program capable of measuring airborne cyanotoxin and cyanobacteria cell particle levels and determining particle sizes. The FGCU report provides preliminary results from a short-term air sampler deployment during the west coast FL cyanobacteria bloom in 2018. A summary of the project could be found [here](#).

## [Training Opportunities at Iowa Lakeside Laboratory](#)

### **ECOLOGY AND SYSTEMATICS OF ALGAE - June 10<sup>th</sup> – July 5<sup>th</sup>, 2019**

An ecological perspective is used to explore the diversity of photosynthetic microbes that form the energy base of freshwater ecosystems, including cyanobacteria, green algae, and diatoms. Students will learn techniques in collection, preparation, and identification of algae. Lectures will cover all algal groups' taxonomy, systematics, and ecology. Environmental and economic concerns caused by algal growth will be examined. Field collections will be used to identify common genera of algae, study life histories, and examine environmental factors that affect growth and distribution. This is an intensive, field-oriented class appropriate for advanced undergraduate students, graduate students, and post-graduate workers in bioassessment, algal ecology, and taxonomy. Students are encouraged to bring individual research materials, and there will be opportunities to discuss research approaches using algae. Students should have a working knowledge of basic biology. Class size is limited to 10.

Instructor: Kalina Manoylov, Georgia Coll. & State University.

Tuition: Undergraduate per credit: \$324.00/Graduate per credit: \$548.00

For more information or register go to: <https://iowalakesidelab.org/courses>

## UPCOMING EVENTS

### **EPA WEBINARS: Preparing for HABs Season 2019**

[Planning and Responding to Cyanotoxins in Drinking Water](#)

April 25<sup>th</sup>, 2019 11:00 EST

### **CONFERENCES**

[3rd Interdisciplinary Freshwater Harmful Algal Blooms Workshop](#)

April 24 - 26, 2019  
Toronto, Ontario

[11th International Conference on Toxic Cyanobacteria](#)

May 5-10, 2019  
Krakow, Poland

[IAGLR 2019 Conference](#)

June 10-14, 2019  
Brockport, NY

[2019 Gordon Research Conference on Mycotoxins and Phycotoxins: Risk and Regulation in a Multi-Toxin Exposure World](#)

June 16-21, 2019  
Stonehill College, Easton, MA

[10th US HAB Symposium](#)

Nov 3-8, 2019  
Perdido Beach Resort, Orange Beach, Alabama

**NOTICE:** We're in the process of revamping the EPA's Cyanobacteria Website. The website can be assessed using this temporary [link](#). Apologies for the inconvenience, we expect the issue to be resolved soon.

This newsletter was created by [Dr. Lesley D'Anglada](#), Office of Science and Technology, Office of Water. Mention of trade names, products, or services does not convey and should not be interpreted as conveying official EPA endorsement, approval or recommendation for use.

## BLOOMS, BEACH CLOSURES and HEALTH ADVISORIES \* March 2019

⚠️ [Florida \(2\)](#)   ⚠️ [Maryland \(1\)](#) (*Prorocentrum minimum* bloom at the Maryland Coastal Bay)   ⚠️ [Ohio \(1\)](#)   ⚠️ [Oregon \(1\)](#)

\* Include blooms, cautions, warnings, public health advisories, closings and detections over the State's threshold, due to the presence of algae, toxins or both. Many States have closed the season for HABs monitoring efforts. Monitoring will begin on late spring or early summer.

### RECENTLY PUBLISHED ARTICLES

#### [Early warning method for cyanobacteria toxin, taste and odor problems by the evaluation of fluorescence signals](#)

C. Moldaenke, Y. Fang, F. Yang, A. Dahlhaus. *Science of the total Environment*. 667. 2019. Pp. 681-690.

#### [Potential of biological approaches for cyanotoxin removal from drinking water: A review](#)

Pratik Kumar, Krishnamoorthy Hegde, Satinder Kaur Brar, Maximiliano Cledon, Azadeh Kermanshahi-pour, *Ecotoxicology and Environmental Safety*, Volume 172, 2019, pp. 488-503

#### [Removal of cyanotoxins by potassium permanganate: Incorporating competition from natural water constituents](#)

Juliana R. Laszakovits, Allison A. MacKay, *Water Research*, Volume 155, 2019, pp. 86-95

#### [Impacts of microbial assemblage and environmental conditions on the distribution of anatoxin-a producing cyanobacteria within a river network](#)

Keith Bouma-Gregson, Matthew R. Olm, Alexander J. Probst, Karthik Anantharaman, Mary E. Power and Jillian F. Banfield. *ISME J*ournal, February 2019.

#### [Insights into carbon acquisition and photosynthesis in \*Karenia brevis\* under a range of CO<sub>2</sub> concentrations](#)

T.L. Bercel, S.A. Kranz. *Progress in Oceanography*, 2019; 172: 65

#### [Bioaccumulation of microcystins in seston, zooplankton and fish: A case study in Lake Zumpango, Mexico](#)

Cesar Alejandro Zamora-Barrios, S. Nandini, S.S.S. Sarma, *Environmental Pollution*, Volume 249, 2019, pp. 267-276.

#### [Effects of cylindrospermopsin on cultured immortalized human airway epithelial cells](#)

Barbara Kubickova, Petra Laboha, Jan-Peter Hildebrandt, Klara Hilscherová, Pavel Babica. *Chemosphere*, Volume 220, 2019, pp. 620-628

#### [Cyanobacterial blooms in the central basin of Lake Erie: Potentials for cyanotoxins and environmental drivers](#)

Justin D. Chaffin, Sachidananda Mishra, Douglas D. Kane, Darren L. Bade, Keara Stanislawczyk, Kristen N. Slodysko, Kevin W. Jones, Eric M. Parker, Erica L. Fox. *Journal of Great Lakes Research*, 2019

#### [Widespread occurrence of retinoids in water bodies associated with cyanobacterial blooms dominated by diverse species](#)

Luděk Sehnal, Tereza Procházková, Marie Smutná, Jiří Kohoutek, Olga Lepšová-Skácelová, Klára Hilscherová, *Water Research*, 2019.

### *Toxins Journal/Topical Collection*

#### ["Freshwater HABs and Health in a Changing World"](#)

Manuscripts on cyanobacterial exposure assessment; health outcomes; outbreak investigations; wild and domestic animal poisonings; toxicology of cyanobacterial toxins in animals and humans, production of toxins in the environment, absorption, distribution, and elimination of toxins in animals and humans, and the control of toxins in the built and natural environment, are invited. Go to [www.mdpi.com](http://www.mdpi.com) and [register](#) to [login](#) and to [submit a manuscript](#).