

US EPA ARCHIVE DOCUMENT

# Freshwater HABs News



Anabaena (160 ug/L of MC).  
Carlson Arm of North  
Tenmile Lake, Oregon  
Courtesy of Richard Litts,  
September 26, 2013

## **BMAA and Alzheimer's, ALS and Parkinson's disease?**

A new study published by the *Proceedings of the Royal Society* explores the relationship between amyotrophic lateral sclerosis/parkinsonism dementia complex (ALS/PDC) and chronic dietary exposure to a cyanobacterial toxin ( $\beta$ -N-methylamino-L-alanine or BMAA) present in the traditional Chamorro villagers on the Pacific island of Guam diet. The study also explores the co-administration of the dietary amino acid L-serine with L-BMAA in the diet to reduce the risk.

**Dietary exposure to an environmental toxin triggers neurofibrillary tangles and amyloid deposits in the brain** Paul Alan Cox, David A. Davis, Deborah C. Mash, James S. Metcalf, Sandra Anne Banack. Proc. R. Soc. B. January 20, 2016.

## **EPA Releases 2010 National Coastal Condition Assessment**

The 2010 National Coastal Condition Assessment shows that more than half of the nation's coastal and Great Lakes nearshore waters are rated good for biological and sediment quality, while about one-third are rated good for water quality. In almost all coastal waters, however, contaminants in fish tissue pose a threat to sensitive predator fish, birds, and wildlife.

## **Great Lakes Beach Conference Presentations are available!**

You can see the slides for the Pathogens and Harmful Algal Blooms: New Methods to Monitor, Model and Mitigation Health and Economic Impacts Section. You can also see the slides from the [Joint Conference \(9th Biennial State of Lake Michigan/15th Annual Great Lakes Beach Association Joint Conference\)](#). The YouTube video of the [Pathogens and Harmful Algal Blooms](#) section is also available.

## **NEW ELISA Kit for Anatoxin-a**

Abraxis introduces a patented, microtiter plate format (96T), ELISA kit for Anatoxin-a, PN 520060. The range of the assay is 0.15 to 5.0 ug/L (ppb). The protocol is similar to Cylindrospermopsin and Saxitoxin with room temperature incubation and no sample concentration. Samples are to be collected in amber glass vials and, as with saxitoxin, sample needs to be preserved immediately upon collection with a preservative solution provided with the kit. Samples collected and preserved in this manner can be used for both anatoxin-a, and saxitoxin analysis.

## **Upcoming Events**

### **IGW -HABHRCA Great Lakes Webinars**

February 9, 2016  
2:00-3:00 PM EST  
February 10, 2016  
1:00 - 2:00 PM EST  
February 11, 2016  
1:00 - 2:00 PM EST

### **Cyanobacteria Monitoring: Perspectives from EPA Region 1 Webinar**

February 23, 2016,  
1:00 – 2:00 p.m. EST

### **2016 Recreational Waters Conference**

April 12 – 15, 2016  
New Orleans, LA

### **US Algal Toxin Conference 2016**

April 2016  
Akron, Ohio

### **Summer 2016 Field Courses on Algae**

May – July, 2015  
Iowa Lakeside  
Laboratory

### **ASLO 2016**

June 5 – 10, 2016  
Santa Fe, New Mexico

## RECENTLY PUBLISHED ARTICLES

### Exposure to the Paralytic Shellfish Toxin Producer *Alexandrium catenella* Increases the Susceptibility of the Oyster *Crassostrea gigas* to Pathogenic *Vibrios*

Celina Abi-Khalil, Carmen Lopez-Joven, Eric Abadie, Veronique Savar, Zouher Amzil, Mohamed Laabir and Jean-Luc Rollan. *Toxins* **2016**, *8* (1), 24

### Multi-Year Assessment of Toxic Genotypes and Microcystin Concentration in Northern Lake Taihu, China

Lili Hu, Kun Shan, Lizhou Lin, Wei Shen, Licheng Huang, Nanqin Gan and Lirong Song. *Toxins* **2016**, *8* (1), 23

### Occurrence and Seasonal Variations of Lipophilic Marine Toxins in Commercial Clam Species along the Coast of Jiangsu, China

Xin-Zhi Wang, Ying Cheng, Na Li, Hong-Mei Wen, Rui Liu, Chen-Xiao Shan, Chuan Chai and Hao Wu. *Toxins* **2016**, *8* (1), 8

### A Rapid LC-HRMS Method for the Determination of Domoic Acid in Urine Using a Self-Assembly Pipette Tip Solid-Phase Extraction

Yiping Zhang, Dawei Chen and Zhuan Hong. *Toxins* **2016**, *8* (1), 10

### Rapid and highly variable warming of lake surface waters around the globe

O'Reilly, C. M., et al. (2015), *Geophys. Res. Lett.*, 42, 10,773–10, 781

### Assessment of the roles of reactive oxygen species in the UV and visible light photocatalytic degradation of cyanotoxins and water taste and odor compounds using C–TiO<sub>2</sub>

Theodora Fotiou, Theodoros M. Triantis, Triantafyllos Kaloudis, Kevin E. O'Shea, Dionysios D. Dionysiou, Anastasia Hiskia, *Water Research*, 90, 1 March 2016, 52-61

### Monitoring Oregon Coastal Harmful Algae: Observations and implications of a harmful algal bloom-monitoring project

S. Morgaine McKibben, Katie S. Watkins-Brandt, A. Michelle Wood, Matthew Hunter, Zach Forster, Alyssa Hopkins, Xiuning Du, Bich-Thuy Eberhart, William T. Peterson, Angelicque E. White, *Harmful Algae*, 50, Dec 2015,32-44

### Exposure to cyanobacteria: acute health effects associated with endotoxins

B. Lévesque, M.-C. Gervais, P. Chevalier, D. Gauvin, E. Anassour-Laouan-Sidi, S. Gingras, N. Fortin, G. Brisson, C. Greer, D. Bird, *Public Health*, 14 January 2016

### Fast, rugged and sensitive ultra-high pressure liquid chromatography tandem mass spectrometry method for analysis of cyanotoxins in raw water and drinking water-First findings of anatoxins, cylindrospermopsins and microcystin variants in Swedish source waters and infiltration ponds

Heidi Pekar, Erik Westerberg, Oscar Bruno, Ants Lääne, Kenneth M. Persson, L.Fredrik Sundström, Anna-Maria Thim, *Journal of Chromatography A*,1429, 15 January 2016, 265-276

### Assessing ecological water quality of freshwaters: PhyCoI—a new phytoplankton community Index

Matina Katsiapi, Maria Moustaka-Gouni, Ulrich Sommer, *Ecological Informatics*, 31, January 2016, 22-29

#### Useful Resources

- ✓ [EPA's CyanoHABs Website](#)
- ✓ [EPA, NASA, NOAA and USGS Cyanobacteria Assessment Network \(CYAN\)](#)
- ✓ [CDC's Cyanobacteria Harmful Algal Bloom \(HAB\) Toolkit](#)
- ✓ [NOAA Harmful Algal Bloom Forecasting System](#)

#### HEALTH ADVISORIES AND POSTINGS

**Oregon** – South Umpqua River and Lawson Bar (permanent)



To sign up for the newsletter, send an email to [danglada.lesley@epa.gov](mailto:danglada.lesley@epa.gov)