

Timothy Walter Davis PhD
Research Scientist
NOAA Great Lakes Environmental Research Laboratory
4840 South State Rd.
Ann Arbor, MI 48108
(734) 741-2286
timothy.davis@noaa.gov

Education:

Bachelor of Science- Marine Science- Concentration: Biology- 2004- Southampton College of Long Island University- **Summa cum Laude**

Doctorate of Philosophy- Marine and Atmospheric Science- Conferred: December 22, 2009- Stony Brook University; Dissertation title: Effects of nutrients, temperature, and zooplankton grazing on toxic and non-toxic strains of the harmful cyanobacterium *Microcystis* spp.

Professional Experience:

Research Scientist – NOAA-Great Lakes Environmental Research Laboratory, Ann Arbor, MI, 48108, March 2014 - Present

NSERC (Natural Sciences and Engineering Research Council of Canada) Research Fellow- Dr. Susan Watson, Watershed Hydrology and Ecology Research Division, Environment Canada, Canadian Centre for Inland Waters, Burlington ON L7R 4A6, Canada, December 2012 - March 2014

Queensland Smart Futures Fellow, 2012 Australian Rivers Institute, Griffith University, Nathan Queensland 4111. Project Title: *New technologies for identifying emerging cyanotoxin producers and their prevalence under a changing climate*

Team leader- *Cylindrospermopsis raciborskii* genome comparison project, 2010 - 2012

Post-doctoral Research Fellow- Assoc. Prof. Michele Burford- Australian Rivers Institute, Griffith University, Nathan, Queensland 4111, Australia, December 2009 - January 2012

Graduate Research Assistant- Prof. Christopher Gobler- School of Marine and Atmospheric Sciences, Stony Brook University, Stony Brook, NY 11794 USA, January 2004 - December 2009

Publications:

Cory, R.M., **Davis, T.W.**, Dick, G.J., Johengen, T., Deneff, V.J., Berry, M., Page, S.E., Watson, S.B., Yuhas, K., Kling, G.W., *submitted*. Seasonal dynamics in dissolved organic matter, hydrogen peroxide, and cyanobacterial blooms in Lake Erie. *Frontiers in Marine Science*, January, 2016.

Reavie, E.D., Cai, M., Twiss, M.R., Carrick, H.J., **Davis, T.W.**, Johengen, T. H., Gossiaux, D., Smith, D.E., Palladino, D., Burtner, A., Sgro, G.V., *in revision*. Diatom Production in Lake Erie is an important driver of summer hypoxia. *Journal of Great Lakes Research*, December 2015.

Bullerjahn, G.S., McKay, R.M., **Davis, T.W.**, and 18 others, *accepted*. Global solutions to regional problems: collecting global expertise to address the problem of harmful algal blooms - A Lake Erie case study. *Harmful Algae*, December, 2015.

- Stumpf, R.P., **Davis, T.W.**, Wynne, T.T., Graham, J.L., Loftin, K.A., *accepted*. Strategies for mapping cyanobacteria toxin patterns with remotely sensed data. *Harmful Algae*, September 2015.
- Gobler, C.J., Burkholder, J.M., **Davis, T.W.**, Harke, M.J., Stow, C.A., Van de Waal, D.B., *accepted*. The dual role of nitrogen supply in controlling the growth and toxicity of cyanobacterial blooms. *Harmful Algae*.
- Visser, P.M., Verspagen, J.M.H., Sandrini, G., Stal, L.J., Matthijs, H.C.P., **Davis, T.W.**, Paerl, H.W., Huisman, J., *accepted*. How rising CO₂ and global warming may stimulate harmful cyanobacterial blooms. *Harmful Algae*.
- Harke, M.J., **Davis, T.W.**, Watson, S.B., Gobler, C.J., 2016. Nutrient-controlled niche differentiation of western Lake Erie cyanobacterial populations revealed via metatranscriptomic surveys. *Environmental Science and Technology* 50: 604 – 615.
- Davis, T.W.**, Bullerjahn, G.S., Tuttle, T., McKay, R.M., Watson, S.B., 2015. Effects of increasing nitrogen and phosphorus concentrations on the growth and toxicity of Planktothrix blooms in Sandusky Bay, Lake Erie. *Environmental Science & Technology*, 49(12): 7197 – 7207.
- Kopf, A., and 164 other authors, 2015. The Ocean Sampling Day consortium. *GigaScience*, 4:27, DOI 10.1186/s13742-015-0066-5.
- Davis, T.W.**, Watson, S.B., Rozmarynowycz, M.J., Ciborowski, J., McKay, R.M., Bullerjahn, G., 2014. Phylogenies of microcystin-producing cyanobacteria in the lower Laurentian Great Lakes suggest extensive genetic connectivity. *PLoS ONE* 9(9): e106093. doi:10.1371/journal.pone.0106093.
- Burford, M.A., **Davis, T.W.**, Orr, P.T., Sinha, R., Willis, A., Neilan, B.A., 2014. Nutrient-related changes in the toxicity of field blooms of the cyanobacterium, *Cylindrospermopsis raciborskii*. *FEMS Microbiology Ecology* 89: 135-148.
- Sinha, R., Pearson, L.A., **Davis, T.W.**, Muenchhoff, J., Pratama, R., Jex, A., Burford, M.A., Neilan, B.A., 2014. Comparative genomics of *Cylindrospermopsis raciborskii* strains with differential toxicities. *BMC Genomics*, DOI: 10.1186/1471-2164-15-83.
- Davis, T.W.**, Orr, P.T., Boyer, G.L., Burford, M.A., 2014. Investigating the production and release of cylindrospermopsin and deoxy-cylindrospermopsin by *Cylindrospermopsis raciborskii* over a natural growth cycle. *Harmful Algae* 31: 18-25
- Muhid, P., **Davis, T.W.**, Bunn, S.E., Burford, M.A., 2013. Effects of inorganic nutrients in potable recycled water on freshwater phytoplankton biomass and composition. *Water Research* 47: 384-394.
- Davis, T.W.**, Koch, F., Marcoval, M.A., Wilhelm, S.W., Gobler, C.J., 2012. Mesozooplankton and microzooplankton grazing during cyanobacterial blooms in the western basin of Lake Erie. *Harmful Algae* 15: 26-35.
- Sinha, R., Pearson, L.A., **Davis, T.W.**, Burford, M.A., Orr, P.T., Neilan, B.A. 2012. Increased incidence of *Cylindrospermopsis raciborskii* in temperate zones - is climate change responsible? *Water Research* 46: 1408-1419.
- O'Neil, J.M., **Davis, T.W.**, Burford, M.A., Gobler, C.J., 2012. The Rise of Harmful Cyanobacteria Blooms (CHABs): Role of Eutrophication and Climate Change in Freshwater, Estuarine and Marine Ecosystems. *Harmful Algae* 14: 313-334.
- Burford, M.A., **Davis, T.W.**, 2011. Physical and chemical processes promoting dominance of the toxic cyanobacterium *Cylindrospermopsis raciborskii*. *Chinese Journal of Oceanology and Limnology* 29: 883-891.
- Davis, T.W.**, Gobler, C.J., 2011. Grazing by mesozooplankton and microzooplankton on toxic and non-toxic strains of *Microcystis* in the Transquaking River, a tributary of Chesapeake Bay. *Journal of Plankton Research* 33: 415-430.

- Davis, T.W.**, Harke, M.J., Marcoval, M.A., Goleski, J., Orano-Dawson, C., Berry, D.L., Gobler, C.J., 2010. Effects of nitrogenous compounds and phosphorus on the growth of toxic and non-toxic strains of *Microcystis* during cyanobacterial blooms. *Aquatic Microbial Ecology* 61: 149-162.
- Davis, T.W.**, Berry, D.L., Boyer, G.L., Gobler, C.J., 2009. The effects of temperature and nutrients on the growth and dynamics of toxic and non-toxic strains of *Microcystis* during cyanobacteria blooms. *Harmful Algae* 8: 715-725.
- Gobler, C.J., **Davis, T.W.**, Deonaraine, S.N., Saxton, M., Jochem, F., Wilhelm, S.W. 2008 Grazing and virus-induced mortality of microbial populations before and during the onset of hypoxia in Lake Erie. *Aquatic Microbial Ecology* 51: 117-128.
- Gobler, C.J., **Davis, T.W.**, Coyne K.J., Boyer, G.L. 2007. Interactive influences of nutrient loading, zooplankton grazing, and microcystin synthetase gene expression on cyanobacterial bloom dynamics in a eutrophic New York lake. *Harmful Algae* 6: 119-133.
- Gobler, C. J., Thibault, D.B., **Davis, T.W.**, Curran, P.B., Peterson, B.J., Liddle, L.B. 2006. Algal assemblages associated with *Stegastes* sp. territories on Indo-Pacific coral reefs: Characterization of diversity and controls on growth. *Journal of Experimental Marine Biology and Ecology* 336: 135-145.

Unpublished/non-peer-reviewed reports:

- Wynne, T.T., **Davis, T.W.**, Kelty, R., Anderson, E.J., Joshi, S.J., 2015. NOAA forecasts and monitors blooms of toxic cyanobacteria in Lake Erie. *NYWEA ClearWaters* 45: 21-25.
- Davis, T.W.**, Watson, S.B., 2013. Advancing cHAB monitoring efforts in Hamilton Harbour: Incorporating molecular methods to detect potential toxin producers. Hamilton Harbour Watershed Monitoring and Research Report, 8pp.

Funding:

Current

1. 2014-2016, Project Title: *Multidisciplinary rapid assessment (MRA) indicator of algal and bacterial community composition and harmful blooms*, Principal Investigator: Dr. Sue Watson, Environment Canada, Budget: **\$91,350 CAD**, Funded by: Strategic Technology Application of Genomics in the Environment (STAGE), **Role: Co-PI**.
2. 2015-2016, Project Title: *Assessment of ag watershed phosphorus loading impacts on HAB formation and nearshore water quality (Previously Decision Support Tools for Nearshore Water Quality FY13-14 and Develop Forecasting Models for Beach Water Quality FY10-FY12)*, Principal investigator: Dr. Timothy Davis, NOAA GLERL, Budget \$473,403 USD, Funded by: Great Lakes Restoration Initiative (EPA) **Role: PI**.
3. 2014-2015, Project Title: *Integrated field and laboratory investigation of links between nutrients, dissolved organic carbon, reactive oxygen species, and toxicity of harmful algal blooms*, Principal Investigator: Dr. Gregory Dick, University of Michigan, Budget: **\$25,000**, Funded by: CILER Great Lakes Long-term Fellowship Program, **Role: Co-PI**

Previous

1. 2012-2015, Project Title: *New technologies for identifying emerging cyanotoxin producers and their prevalence under a changing climate*, Principal Investigator: Dr. Timothy Davis, Budget: \$450,000, Funded by: Queensland Government
2. 2011-2012, Project Title: *Investigating the use of qPCR as an early warning system for toxic cyanobacteria blooms*, Principal Investigator: Assoc. Prof. Judy Westrick, Lake

- Superior State University, Budget: \$30,000, Funded by: US EPA, Role: Supporting scientist.
3. 2013-2014, Project Title: Coordinated Onboard Education & Outreach, Principal Investigator: Dr. Janet Vail, Grand Valley State University, Budget: \$250,000, Funded by: Great Lakes Restoration Initiative, Role: Contributing author.
 4. 2013-2014, Project Title: Microcystis blooms and associated bird mortalities studies and investigation of Microcystis management options for the Paul S. Sarbanes Ecosystem Restoration Project at Poplar Island, Principal Investigator: Dr. Kevin Sellner, Chesapeake Research Consortium, Molecular-specific budget: \$18,500, Funded by: Maryland Environmental Service, Role: Co-PI.
 5. 2012-2014, Project Title: Development of novel toxin detection methodologies applicable to marine and freshwater systems, Principal Investigator: Assoc. Prof. Judy Westrick, Wayne State University, Budget: \$133,797. Funded by: National Institute of Environmental Health Sciences (NIH), Role: Co-PI.
 6. 2012-2014, Project Title: Development of novel toxin detection methodologies applicable to marine and freshwater systems, Principal Investigator: Assoc. Prof. Judy Westrick, Wayne State University, Budget: \$272,054. Funded by: National Science Foundation, Role: Co-PI.
 7. 2014, Project Title: Investigating the environmental drivers of harmful cyanobacterial blooms in Lake St. Clair, Principal Investigator: Prof. Jan Ciborowski, University of Windsor, Budget: \$35,375, Funded by: Science Horizons, Role: Co-PI
 8. 2015, Project Title: Expanding environmental intelligence assets in western Lake Erie, Principal Investigators: Dr. Timothy Davis and Mr. Steve Ruberg, NOAA GLERL, Budget: \$900,000 USD, Funded by: Great Lakes Restoration Initiative (EPA) Role: PI.
 9. 2014-2015, Project Title: Building capacity for freshwater science: Integrating microbial genomics, environmental chemistry, and ecosystem processes to understand harmful algal blooms, Principal Investigator: Assist. Prof. Gregory Dick - University of Michigan, Budget: \$249,485, Funded by: University of Michigan Water Center, Role: Team member.
 10. 2012, Project Title: Transcriptomics: A new tool for understanding the ecology of toxic cyanobacteria, Principal Investigator: Dr. Timothy Davis, Budget: \$8,000, Funded by: Griffith University

Teaching Experience:

University of Michigan

Guest lecturer- Introduction to Environmental Geology (Earth 284)- Dr. Rose Cory, Spring 2015

Guest lecturer- Introduction to Oceanography - Dr. Brian Arbic, Spring 2015

Inland Seas Education Association, Education Director, April 2012 – November 2012

- Develop age-appropriate science curriculums for students ranging from elementary school through undergraduate level
- Lead and oversee on-board educational programs
- Develop and write proposals to local, state, and federal funding agencies
- Oversee interns
- Present scientific and educational presentations

Griffith University

Co-instructor-Ecological theory and practice -2051ENV- Dr. Guillermo Diaz-Pulido, Assoc. Prof. Fran Sheldon, Prof. Jane Hughes, Dr. Timothy Davis, Griffith University, Semester 2, 2011

- Prepared and presented a series of lectures on primary production and energy flow through ecosystems

Co-instructor-Science of water-Integrated Water Management masters program-International Water Centre, Brisbane 2011

- Prepared lectures and activities for post-graduate students
- Coordinated teaching and other activities with international collaborators

Stony Brook University

Co-instructor-Environmental problems and solutions-MAR 340-Dr. Kurt Bretsch and Timothy Davis-Spring 2009

- Prepared a syllabus and coordinate lecture schedule
- Compose lectures
- Create tests and homework assignments

Guest lecturer- Women in Science and Engineering (WISE)- Tara Duffy & Kestrel Perez- Stony Brook University, Fall 2008

Guest lecturer-Long Island Marine Habitats-MAR 303-Lyndie Hice & Tara Duffy- SoMAS, Stony Brook University, Fall 2008

Guest lecturer-Phytoplankton Ecology- MAR 515 -Dr. Chris Gobler-SoMAS, Stony Brook University, Fall 2006, Fall 2008

Guest lecturer-Plankton Ecology- MAR 366 -Dr. Chris Gobler-SoMAS, Stony Brook University, Fall 2006, Fall 2008

Teaching practicum-Biological Oceanography-MAR 347-Dr Christopher J. Gobler-SoMAS, Stony Brook University, Spring 2007

- Gained experience in preparing for and giving lectures
- Coordinated and prepared the laboratory section of the course
- Graded exams and lab write-ups
- Gained experience interacting with students

Teaching assistant- Experimental Marine Biology-MAR-S 305-Dr. Brad Peterson- SoMAS, Stony Brook University, Fall 2005

- Coordinated with Dr. Peterson to design class labs
- Taught the laboratory techniques section of the class
- Assisting in field collection, analysis, and experimental set-up
- Gaining teaching experience

Student mentorship:

Mr. Derek Smith-U. of Michigan -2015 -Present- Ph.D student

Dr. Kevin Meyer-U. of Michigan-2015-Present- Postdoctoral research fellow

Ms. Christine Knight-U. of Michigan-2014-Present- Master's student

Ms. Shelby Grassick-Environment Canada-2013-2014- Co-op student

Mr. Craig Irwin- Environment Canada-2013-2014- Co-op student

Ms. Jenisse German-Environment Canada-2013- Co-op student

Mr. Jack Calder-Environment Canada-2013- Co-op student

Ms. Maisa Fumagalli-Environment Canada-2013- Co-op student

Ms. Rati Sinha-U. of New South Wales-2010-2012- Ph.D student

Mr. Sebastian Knight-Griffith University-2011- summer scholarship student

Mr. Matthew Harke-Stony Brook U.-2007-Summer research assistant

Mr. Justin Fischdicke-Stony Brook U.-2006- Summer research assistant

Service:

- Reviewer for the journals *Harmful Algae*, *Hydrobiologia*, *Limnology and Oceanography*, *European Journal of Phycology*, *Applied and Environmental Microbiology*, *Aquatic Microbial Ecology*, *Phycologia* and *Fundamental and Applied Limnology*, *Journal of Great Lakes Research*

Synergistic Activities:

National HAB committee member (Freshwater subgroup chair)	2014 – present
Guest Editor, <i>Harmful Algae</i> issue on Cyanobacterial HABs	2014 – present
Co-organizer, NSF/NOAA workshop on Cyanobacterial HABs (with George Bullerjahn and Robert Michael McKay, BGSU)	2014 – present
Harmful Algal Bloom and Hypoxia Research and Control Act Interagency working group member (Great Lakes subgroup chair)	2014 – present
Session organizer, <i>Linking Genetics, toxicity and physiology of bloom-forming Cyanobacteria in large lakes</i> , JASM, Portland, OR	2014

Affiliations:

- International Society for the Study of Harmful Algae
- Association for the Sciences of Limnology and Oceanography
- Global Lake Ecological Observatory Network (GLEON)

Presentations:

Invited

- Davis, T. W.**, The Great Debate: Investigating the roles of nitrogen and phosphorus in driving growth and toxicity of cyanobacterial harmful algal blooms in western Lake Erie. McLane Research Laboratories seminar. Woods Hole, MA.
- Davis, T. W.**, NOAA-GLERL HAB research and monitoring program. International Environmental Academic Conference, Nanjing, China.
- Davis, T.W.**, The Great Debate: Investigating the roles of nitrogen and phosphorus in driving growth and toxicity of cyanobacterial harmful algal blooms in western Lake Erie. East China Normal University seminar series. Shanghai, China.
- Davis, T. W.**, Using advanced technologies to monitor, detect and understand the drivers of harmful algal blooms in the Laurentian Great Lakes, International Environmental Engineering Conference, Busan, Korea Oct. 28 - 30, 2015.
- Davis, T.W.**, 2015. The Great Debate: Investigating the roles of nitrogen and phosphorus in driving growth and toxicity of cyanobacterial harmful algal blooms in western Lake Erie. American Chemical Society Annual Conference (Keynote), Boston, MA.
- Davis, T.W.**, 2015. The Great Debate: Investigating the roles of nitrogen and phosphorus in driving growth and toxicity of cyanobacterial harmful algal blooms in western Lake Erie. GLERL-CILER seminar series, Ann Arbor, MI.
- Davis, T.W.**, 2015. Using an integrated approach to better understand the environmental drivers of toxic cyanobacterial harmful algal blooms in Lake Erie, USA, Korea Institute of Science and Technology, Seoul, South Korea.
- Davis, T.W.**, 2015. I may have a nitrogen fixation! Investigating the environmental drivers of HAB growth and toxicity using genetic and traditional limnological techniques. University of Illinois Champagne-Urbana Departmental Seminar.

- Davis, T.W.**, 2015. Why are our lakes the same color as our lawns? Understanding the role of eutrophication and climate change in promoting Cyanobacterial Harmful Algal Blooms (CHABs). University of Illinois Champagne-Urbana HABs workshop.
- Davis, T.W.**, 2014. Harmful algal blooms in Lake Erie. Friends of the Detroit River, Wyandotte, MI.
- Davis, T.W.**, 2014. Why are our lakes the same color as our lawns? Investigating how a changing climate may impact harmful algal blooms. Toledo Zoo Climate Change Symposium, Toledo, OH.
- Davis, T.W.**, 2014. Harmful algal blooms in Lake Erie. EPA National Harmful Algal Bloom Webinar. Environmental Protection Agency.
- Davis, T. W.**, 2014. Sustainable fisheries: Phytoplankton are important! Western Lake Erie Regional Fisheries Workshop, Monroe, MI.
- Davis T.W.** 2013. Why are our lakes the same color as our lawns? Investigating the ecology of toxic cyanobacterial blooms using molecular techniques. Great Lakes Environmental Research Laboratory, November 2013, Host: Dr. Henry Vanderploeg
- Davis, T.W.**, Watson, S.B. 2013. Advancing cyanobacterial bloom monitoring in Hamilton Harbor: Incorporating molecular methods to detect potential toxin producers. Hamilton harbor Research and Monitoring workshop – XIII. Canada Centre for Inland Waters, March 2013
- Davis T.W.**, Gobler, C.J., Sinha, R., Neilan, B.A. 2012. PCR applications for toxin monitoring. 2012 Water Quality Technology Conference & Exposition Toronto, Workshop: Analysis of Algae in Water Supplies: Applications of Alternative Methods Ontario, Canada, November 2012
- Davis T.W.** 2011. Why are our lakes the same color as our lawns? Investigating the ecology of toxic cyanobacterial blooms using genetic techniques. University of Amsterdam, July 2011, Host: Dr. Petra Visser
- Davis, T.W.**, Koch, F., Marcoval, A., Wilhelm, S.W., Gobler, C.J., 2011. Cyanobacterial blooms in the Laurentian (North American) Great Lakes: does a top-down control exist? Australian Rivers Institute Research Fellow Symposium, Griffith University – Nathan Campus, Nathan, QLD, Australia, February 2011, Host: Dr. Wade Hadwen
- Davis, T.W.** 2010. Why are our lakes the same color as our lawns? Resolving the ecology of toxic cyanobacteria blooms using genetic techniques. Annis Water Resources Institute, Grand Valley State University, Muskegon, MI, USA, November 2010, Host: Dr. Ryan Thum
- Davis, T.W.** 2010. Why are our lakes the same color as our lawns? Resolving the ecology of toxic cyanobacteria blooms using genetic techniques. Lake Superior State University, Sault Ste Marie, MI, USA, November 2010, Host: Dr. Judy Westrick
- Davis, T.W.**, 2010. Effects of nutrients, temperature, and zooplankton grazing on toxic and non-toxic strains of the harmful cyanobacterium *Microcystis* spp. Australian Rivers Institute Seminar series, Griffith University – Nathan Campus, Nathan, QLD, Australia, March 2010, Host: Dr. Catherine Leigh
- Davis, T.W.**, Orano-Dawson, C., Harke, M., Gobler, C. J., 2009. What's driving toxic *Microcystis* blooms? A molecular approach to an ecological problem. Biology Graduate Seminar Long Island University-C.W. Post Campus, Brookville, NY, September 2009, Host: Dr. Matthew Draud
- Davis, T.W.**, Orano-Dawson, C., Harke, M., Gobler, C. J., 2009. The effects of global warming, eutrophication, and grazing on toxic *Microcystis* blooms in Chesapeake Bay tributaries: a focus on Transquaking River. University of Maryland Center for Environmental Science- Horn Point Laboratory, April 2009, Host: Dr. Diane Stoecker

- Davis, T.W.**, Orano-Dawson, C., Harke, M., Gobler, C.J., 2008. The effects of global warming, eutrophication, and grazing on toxic *Microcystis* blooms in Chesapeake Bay tributaries: a focus on Transquaking River. Maryland DEC HAB Taskforce Meeting, Annapolis, MD, Host: Ms. Catherine Wazniak
- Davis, T.W.**, Harke, M., Gobler, C.J., 2007. Solutions for toxic blue green algae on Long Island: A comparison of two approaches. Stony Brook-Southampton's Coastal and Estuarine Research Program Symposium, Stony Brook-Southampton, Southampton, NY, USA, Host: Dr. Christopher Gobler
- Davis, T.W.**, Gobler, C.J., 2007. Toxic blue green algae on Long Island: Problems with, and potential solutions for, freshwater cyanobacteria blooms. Stony Brook-Southampton's Coastal and Estuarine Research Program Symposium, Stony Brook-Southampton, Southampton, NY, USA, Host: Dr. Christopher Gobler

Contributed

- Davis, T.W.**, Gossiaux, D., Cory, R., Meissner, S., Dick, G., Smith, D., Meyer, K., Watson, S., Bullerjahn, G. Investigating the role of reactive oxygen species in driving bloom toxicity in western Lake Erie. US HAB Symposium, Long Beach, CA November 15-19, 2015.
- Mikulski, C., Ritzenthaler, A., Ruberg, S., **Davis, T.W.**, Doucette, G., Development of an immunoassay for autonomous, subsurface detection of particulate microcystins in Lake Erie. US HAB Symposium, Long Beach, CA November 15-19, 2015.
- Davis, T.W.**, G.L. Boyer, D.C. Gossiaux, R.P. Stumpf, T.T. Wynne, P.V. Zimba, and D.B. Gutierrez, 2015. Investigating the ecology and toxicity of the CyanoHAB during the 2014 Toledo drinking water crisis. 58th Annual Conference of the International Association for Great Lakes Research, University of Vermont, Burlington, VT
- Chaffin, J.D., **Davis, T. W.**, 2015. Cyanobacteria growth and microcystin production response to nitrogen form and loading rate. 58th Annual Conference of the International Association for Great Lakes Research, University of Vermont, Burlington, VT, May 25-29, 2015 (2015).
- Davis T.W.** 2015. Harmful algal blooms in Lake Erie. Great Lakes to Great Lakes Symposium, Kigoma, Tanzania.
- Davis, T.W.**, Watson, S.B., Rozmarynowycz, M.J., Ciborowski, J., McKay, R.M., Bullerjahn, G., 2014. Molecular and taxonomic characterization of potential microcystin-producing cyanobacteria in Lake St. Clair during a late summer bloom, International Association for Great Lakes Research, Hamilton, ON, Canada
- Harke, M.J., **Davis, T.W.**, Watson, S. B., Gobler, C.J., 2014 Transcriptomic analysis of toxin production by *Microcystis* under differing nitrogen conditions. Joint Aquatic Sciences Meeting, Portland, OR, USA
- Bullerjahn, G. S., **Davis, T. W.**, Watson, S. B., Rozmarynowycz, M. J., McKay, R. M., 2014. Linking the genetics, toxicity and physiology of *Planktothrix* blooms to increased nitrogen and phosphorus concentrations in an eutrophic embayment of Lake Erie, Joint Aquatic Sciences Meeting, Portland, OR, USA
- Chiu, A. S.; Gutierrez, D. B., **Davis, T. W.**, Watson, S. B., Westrick, J. A., Zimba, P. V., 2014. Molecular and analytical assessment of cyanotoxin distribution in Lake Winnipeg during summer 2013, Joint Aquatic Sciences Meeting, Portland OR, USA
- Sinha, R., Pearson, L.A., **Davis, T.W.**, Muenchhoff, J., Pratama, R., Jex. A., Burford, M.A., Neilan, B.A. 2013. Comparative genomics of *Cylindrospermopsis raciborskii* strains with differential toxicities. 9th International Conference on Toxic Cyanobacteria, Pilanesberg National Park, South Africa

- Davis, T.W.,** Orr, P.T. Boyer, G.L., Burford, M.A., 2013. Investigating the production and release of cylindrospermopsin and deoxy-cylindrospermopsin by *Cylindrospermopsis raciborskii* over a natural growth cycle. 9th International Conference on Toxic Cyanobacteria, Pilanesberg National Park, South Africa
- Davis, T.W.,** Gobler, C.J., 2011. Differential ecology of toxic and non-toxic strains of *Microcystis* during blooms events. ASLO Aquatic Sciences Meeting, San Juan, Puerto Rico
- Davis, T.W.,** Gobler, C.J., 2010. What's Driving Toxic *Microcystis* Blooms? A molecular approach to an ecological problem. 8th International Conference on Toxic Cyanobacteria, Istanbul, Turkey
- Davis, T.W.,** Gobler, C.J., 2009. Meso- and microzooplankton grazing on toxic and non-toxic strains of the harmful cyanobacterium *Microcystis* spp. 2009 US Harmful Algal Bloom Conference, Ocean Shores, WA, USA
- Davis, T.W.,** Gobler, C.J., 2008. The effects of temperature and eutrophication on toxic and non-toxic strains of *Microcystis* within New York lakes. 2008 US Harmful Algal Bloom Conference, Marine Biological Laboratory, Woods Hole, MA, USA
- Gobler, C.J., **Davis, T.W.,** Coyne K.J., Boyer, G.L., 2005. Distribution and ecology of toxic and non-toxic strains of *Microcystis* populations in North American lakes. The Twelfth International Conference on Harmful Algae, Copenhagen, Denmark.
- Gobler, C.J., **Davis, T.W.,** Coyne K.J., Boyer, G.L., 2005. The impact of nutrient loading and zooplankton grazing on the growth of, and toxin synthesis by, cyanobacteria blooms in Lake Agawam, NY, USA. 2005 US Harmful Algal Bloom Conference, Monterey, CA, USA
- Gobler, C.J., **Davis, T.W.,** Coyne K.J., Boyer, G.L., 2005. The contrasting impacts of nutrient loading and zooplankton grazing on the growth and toxicity of cyanobacteria blooms in a eutrophic New York lake. International Symposium on Cyanobacterial Harmful Algal Blooms, Research Triangle Park, NC, USA
- Gobler, C.J., **Davis, T.W.,** Coyne K.J., Boyer, G.L. 2005., Impact of nutrient loading and zooplankton grazing on abundance, growth and toxin production of freshwater cyanobacteria, ALSO 2005, Salt Lake City, UT, USA
- Davis, T.W.,** Gobler, C.J., Boyer, G.L., 2004. The first report of toxic cyanobacteria blooms on Long Island, NY, USA. The Eleventh International Conference on Harmful Algae, Cape Town, South Africa

Cruise Experience:

Environment Canada Lake Erie and Lake Ontario HAB Cruises, CCGV Limnos, May 2013-present.

International Field Years on Lake Erie (IFYLE), Lake Guardian, July 2005.

Microbial Ecology of the Lake Erie Ecosystem X (MELEE X), CCGV Limnos, August 2005

Microbial Ecology of the Lake Erie Ecosystem XI (MELEE XI), CCGV Limnos, August 2006

US EPA Lake Erie Cruise, Lake Guardian, September 2007.

References:

Dr. Christopher Gobler

Professor

School of Marine and Atmospheric Sciences

Stony Brook University

Stony Brook, NY 11794, USA

E-mail: christopher.gobler@stonybrook.edu

Dr. Henry Vanderploeg

Research Scientist/EcoDyn Lead
NOAA Great Lakes Environmental Research Laboratory
4840 S. State Rd.
Ann Arbor, MI 48108
E-mail: hank.vanderploeg@noaa.gov

Dr. George Bullerjahn

Professor
Bowling Green State University
Bowling Green, OH 43403
E-mail: bullerj@bgsu.edu

Dr. Susan Watson

Researcher
Canada Centre for Inland Waters
Environment Canada
Burlington, Ontario L7R 4A6, Canada
E-mail: Sue.Watson@ec.gc.ca

Dr. Brett Neilan

Professor
School of Biotechnology and Biomolecular Sciences
University of New South Wales
Sydney, NSW 2052, Australia
Email: b.neilan@unsw.edu.au

Dr. Michele Burford

Associate Professor
Australian Rivers Institute, Griffith University
Nathan, QLD 4111, Australia
E-mail: m.burford@griffith.edu.au