Theodore "Ted" Daniel Harris
2101 Constant Ave., Takeru Higuchi Hall
University of Kansas, Lawrence, KS 66047
(+1) 785.864.4258, T992H557@ku.edu

Research Interests

- Using large spatially and temporally distributed datasets to hypothesize novel ecological mechanisms
- Testing empirical ecological relationships in large-scale experiments
- Freshwater cyanobacterial bloom distribution, occurrence, and toxicity
- Predicting and forecasting phytoplankton dynamics and cyanotoxin occurrence
- Quantifying the effects of persistent organic pollutants on aquatic ecosystems

Education

2013-2017 Ph.D. ***with honors*** in Ecology and Evolutionary Biology, University of Kansas, Lawrence, KS
Advisor(s): Drs. Val Smith, Jerry deNoyelles, and Jack Jones (University of Missouri)

2010-2012 M.S. in Natural Resources, University of Idaho, Moscow, ID.
Advisor: Dr. Frank Wilhelm

2005-2009 B.S. Fisheries and Wildlife; B.S. Forestry; Minor Biology, University of Missouri, Columbia, MO.
Advisor: Dr. Jack Jones

Professional Experience

2018-Present **Adjunct Faculty**
University of Missouri – School of Natural Resources, Columbia, MO

2018-Present **Research Affiliate**
University of Kansas – Department of Ecology and Evolutionary Biology, Lawrence, KS

2017-Present **Assistant Research Professor**
Kansas Biological Survey, Lawrence, KS
My projects currently examine (i) conceptual and applied research on phytoplankton community assembly (ii) non-substitutable and substitutable resource-ratio theory effects on phytoplankton communities and their associated metabolites, and (iii) spatial and temporal trends of cyanotoxin occurrence and magnitude on a reginal, national, and global scale.

2017 **Guest Researcher** (**March & April 2017**)
Netherlands Institute of Ecology (NIOO-KNAW), Wageningen, Netherlands
A collaborative research project with Dedmer van de Waal and others at the Netherlands Institute of Ecology aimed at determining stoichiometric regulation of volatile organic compound (VOC) production in axenic and non-axenic *Microcystis Aeruginosa* PCC7806 cultures. Results will be used to determine if nutrient stoichiometry regulates VOC chemical class produced by cyanobacteria.

2013-2017 **Ph.D. in Ecology and Evolutionary Biology / Self Graduate Fellow**
Self Graduate Fellowship, University of Kansas, Lawrence, KS
Funded by the Self Graduate Fellowship, which included 230 hours of professional development over 4 years – see last page of CV, my PhD research focused on analyzing long-term USGS and private datasets for trends relevant to cyanobacteria, cyanotoxins, and volatile organic metabolites at local, regional, and national scales. Additionally, I developed discrete and real-time models that predicted when unwanted cyanobacterial compounds occurred throughout a wide range of temporal and spatial scales.

Dissertation chapter titles

- Combined effects of nitrogen to phosphorus and nitrate to ammonia ratios on cyanobacterial metabolite concentrations in eutrophic Midwestern USA reservoirs (**Published in *Inland Waters* 6:2, 199-210**)

- Do Persistent Organic Pollutants (POPs) stimulate cyanobacterial blooms? (**Published in *Inland Waters* 6:2, 124-130**)
- Predicting cyanobacterial abundance, geosmin, and microcystin in a eutrophic drinking water reservoir using a 14 year dataset (**Published in *Lake and Reservoir Management* 33:1, 32-48**)

2012-2016 **Hydrologic Technician**

U.S. Geological Survey, Kansas Water Science Center, Lawrence, KS

Projects worked on as a technician:

- Cheney Reservoir real-time monitoring for cyanobacterial metabolites (2012 - 2016)
- Johnson County Stormwater monitoring (2014 - 2016)
- Johnson County Wastewater monitoring (2012 - 2014)
- BenthoTorch preliminary tests (2012 - 2014)
- Midwest Stream-Quality Assessment sampling (MSQA; 2013)

2011 **Graduate Teaching Assistant**

Department of Fish and Wildlife Resources, University of Idaho, Moscow, ID.

2010-2012 **Graduate Research Assistant**

Department of Fish and Wildlife Resources, University of Idaho, Moscow, ID.

My thesis was focused at mitigating cyanobacterial biovolume and toxicity in Willow Creek Reservoir, Oregon by manipulating the total nitrogen to total phosphorus (TN:TP) ratio with ammonium nitrate and aluminum sulfate (i.e., alum) treatments. Research yielded the journal **cover of *Lake and Reservoir Management* 30:1**

Thesis chapter titles

- Experimental manipulation of TN:TP ratios to suppress cyanobacterial biovolume and microcystin concentration in large-scale *in situ* mesocosms (**Published in *Lake and Reservoir Management* 30:1, 72-83**)
- Experimental additions of alum and nitrogen to large-scale *in situ* mesocosms to reduce cyanobacterial biovolume and microcystin concentration. (**Published in *Lake and Reservoir Management* 30:1, 84-93**)

2009-2010 **Limnology Laboratory Technician**

University of Missouri, Columbia, Missouri

Publications

In Prep/Submitted Refereed papers:

Harris, T.D., Kulkarni, P., Garbeva, P., and Van de Waal, D.B. Response of *Microcystis aeruginosa* volatile organic compounds under diverse stoichiometric environments. **In Prep**. for *ISME*

Harris, T.D., Graham, J.L., North, R., Obrecht, D., Thorpe, A., and Jones, J.R. Predicting microcystin occurrence in Missouri. **In Prep**. for *Harmful Algae*

Harris, T.D., Graham, J.L., Obrecht, D., Thorpe, A., Jones, J.R, and North, R. Microcystin occurrence is increasing in Midwestern USA reservoirs: evidence from long-term routine monitoring data. **In Prep**. for *Harmful Algae*

Refereed papers:

Liu, H. Zhongquan, C.Z., Young, B., and **Harris, T.D.** 2019. Three-Dimensional numerical modeling of the cyanobacterium *Microcystis* transport and its population dynamics in a large freshwater reservoir. *Ecological Modeling* 398: 20-34.

Graham, J.L., Foster, G.M., Williams, T.J., Kramer, A.R., and **Harris, T.D**. 2017. Occurrence of cyanobacteria, microcystin, and taste-and-odor compounds in Cheney Reservoir, Kansas, 2001–16: U.S. Geological Survey Scientific Investigations Report 2017–5016, 57 p., https://doi.org/10.3133/sir20175016.

Harris, T.D. and Graham, J.L. 2017. Predicting cyanobacterial abundance, geosmin, and microcystin in a eutrophic drinking water reservoir using a 14 year dataset. *Lake and Reservoir Management* 33: 32-48.

Otten, T.G., Graham, J.L, **Harris, T.D.,** and Dreher, T.W. 2016. Elucidation of taste and odor producing bacteria and toxigenic cyanobacteria by shotgun metagenomics in a Midwestern drinking water reservoir. *Applied and Environmental Microbiology* 82:17, 5410-5420.

Harris, T.D., Smith, V.H., Graham, J.L., Van de Waal, D.B., Tedesco, L.P., and Clercin, N. 2016. Combined effects of nitrogen to phosphorus and nitrate to ammonia ratios on cyanobacterial metabolite concentrations in eutrophic Midwestern USA reservoirs. *Inland Waters* 6:2,199-210.

Harris, T.D. and Smith V.H. 2016. Do persistent organic pollutants stimulate cyanobacterial blooms? *Inland Waters* 6:2, 124-130.

Harris, T.D. and Graham, J.L. 2015. Preliminary evaluation of an in vivo fluorometer to quantify algal periphyton biomass and community composition. *Lake and Reservoir Management* 31:2, 127-133.

Graham, J.L., Stone, M.L., Rasmussen, T.J., Foster, G.M., Poulton, B.C., Paxson, C.R., **Harris, T.D.** 2014. Effects of wastewater effluent discharge and treatment facility upgrades on environmental and biological conditions of Indian Creek, Johnson County, Kansas, June 2004 through June 2013. U.S. Geological Survey Scientific Investigations Report 2014–5187, 78p.,*http://dx.doi.org/10.3133/sir20145187*.

Harris, T.D., Wilhelm, F.M., Graham, J.L., and Loftin, K.A. 2014. Experimental manipulation of TN:TP ratios to suppress cyanobacterial biovolume and microcystin concentration in large-scale *in situ* mesocosms. *Lake and Reservoir Management* 30:1, 72-83

Harris, T.D., Wilhelm, F.M., Graham, J.L., and Loftin, K.A. 2014. Experimental additions of alum and nitrogen to large-scale *in situ* mesocosms to reduce cyanobacterial biovolume and microcystin concentration. *Lake and Reservoir Management* 30:1, 84-93

Non-refereed papers:

Harris, T.D. 2017. Factors affecting local, regional, and global scale cyanobacterial dominance and secondary metabolite occurrence. [PhD dissertation]. [Lawrence (KS)]: University of Kansas.

Harris, T.D., deNoyelles, J., and Tilman, G.D. 2016. Val Houston Smith (1950-2016): Putting the puzzle together from organelles to ecosystems. *Limnology and Oceanography Bulletin* 25:3, 86-87.
*A version of this obituary also appeared in the SIL newsletter

Harris, T.D.. 2016. The role of persistent organic pollutants in cyanobacterial bloom proliferation. *LakeLine* 36:1, 26-28.

Burnet, S. and **Harris, T.D.** 2015. Willow Creek Reservoir – A desert oasis of continuing student success. *LakeLine* 35:3, 36-38.

Harris, T.D. and F. M. Wilhelm. 2011. Observations on the appearance of brine flies at Willow Creek Reservoir, a freshwater lake. *Waterline* December 2011. Accessible at: http://www.walpa.org/waterline/december-2011/observations-on-the-appearance-of-brine-flies-at-willow-creek-reservoir-a-freshwater-lake/

Harris, T.D. 2012. Experimental manipulation of the TN:TP ratio to reduce cyanobacterial biovolume and toxin concentration by the addition of nitrogen and alum in large-scale *in situ* mesocosms. [master's thesis]. [Moscow (ID)]: University of Idaho.

Kansas Biological Survey reports:

Harris, T.D., Yun, J., Baker, D., Kastens, J., Sturm, B., Leavitt, P., Ketterer, M., Amand, A.S. 2020. Phytoplankton and water quality in Milford Reservoir: Results of paleolimnological sediment core and historical data analyses. Kansas Biological Survey Report 197. 68p. https://kars.ku.edu/media/downloads/HABs/Milford_Feb2020/

Harris, T.D., Yun, J., Baker, D., Kastens, J., Sturm, B., Leavitt, P., Ketterer, M., Amand, A.S. 2020. Phytoplankton and water quality in Marion and Keith Sebelius reservoirs: Results of paleolimnological sediment core and historical data analyses. Kansas Biological Survey Report 198. 68p. https://kars.ku.edu/media/downloads/HABs/Marion_Sebelius_Feb2020/

Publication of photographs/ Journal covers:

2014 Front cover of Lake and Reservoir Management. Volume 30 Issue 1

See ResearchGate page for current projects and publications (https://www.researchgate.net/profile/Ted_Harris2)

Research Grants and Contracts (as P.I. or co-P.I., non-student)

2020-2022	**City of Lawrence** Impact assessment of the Lawrence wastewater treatment plant on the Wakarusa River: follow-up assessment Baker, D. and **Harris, T.D.**	**$113,875**
2020-2022	**Kansas Water Resources Institute (US Geological Survey)** Benthic cyanobacterial mats: a potential source of harmful and nuisance compounds to Kansas streams Husic, A., **Harris, T.D.,** and Sturm, B.	**$40,000**
2019-2020	**Kansas Water Office** Sediment coring for HAB trends at Webster and Kanopolis Reservoirs **Harris, T.D.,** Baker, D., and Kastens, J.	**$100,000**
2019	**Kansas Water Office** Sediment core and water sample collection at Tuttle Creek Lake for elutriate testing **Harris, T.D.** and Baker, D.	**$12,733**
2019-2020	**Wichita State University/ Kansas Department of Health and Environment** HAB reduction: Feasibility of phoslock application in Marion Reservoir **Harris, T.D.** and Huggins, D. (with Willis, N. and Bohnsack, B. -WSU)	**$148,141**
2019-2020	**National Science Foundation** Are persistent organic pollutants altering microbial methane emissions? **Harris, T.D.** and deNoyelles, J. (collaborators Tonya Delsontro, Andrew Ising, and Peggy Schultz)	**$60,300**
2018-2019	**Kansas Water Office** Sediment coring at Marion and Sebelius Reservoirs and HAB Analyses **Harris, T.D.,** Kastens, J., deNoyelles, J., and Martinko, E.	**$125,000**
2018	**Kansas Water Office** Surface and sediment core collection at Tuttle Creek Lake **Harris, T.D.,** Kastens, J., deNoyelles, J., and Martinko, E.	**$19,000**
2018-2019	**Kansas Water Office** Bathymetric surveys of Council Grove and Marion reservoirs and harmful algal bloom (HAB) sediment coring at Milford lake (**Revised Oct-2018** to remove bathymetry and include data aggregation of in-reservoir, watershed, and weather data related to HABs in Kansas reservoirs). **Harris, T.D.,** Kastens, J., deNoyelles, J., and Martinko, E.	**$100,000**
2018-2020	**Kansas Water Resources Institute (US Geological Survey)** Does nutrient form control harmful algal bloom (HAB) toxin release? **Harris, T.D.,** Burgin, A.J., deNoyelles, J., and Martinko, E.	**$30,000**
2018	**University of Kansas Research Excellence Fund (CME: conference fund)** Funding for hosting 2018 Great Plains Limnology Conference **Harris, T.D.,** deNoyelles, J., and Campbell, S.	**$1,000**
2018	**University of Kansas Research Excellence Fund (CR2: collaborative research)**	**$18,000**

Multivariate, spatio-temporal data analysis and interactive visualization to address harmful cyanobacterial blooms and water quality in lakes and reservoirs
Hill, M.C., Brunsell, N., **Harris, T.D.**, and Roundy, J.

Student Grants, Awards, and Professional Elected positions

2019-Present	Global Lakes Ecological Observatory Network (GLEON) Steering committee member
2018	Association for the Sciences of Limnology and Oceanography Early Career grant **($500 USD)**
2017	Harris and Graham (2017) Lake and Reservoir Management Journal Best Paper award finalist
2017	North American Lake and Reservoir Management Society Jody Connor best student presentation
2016	Self Graduate Fellowship Professional Development Award **($5,000 USD)**
2016	Association for the Sciences of Limnology and Oceanography Student travel grant **($500 USD)**
2016	International Society of Limnology Student travel grant **($500 USD)**
2016-Present	Member, Student Program Committee, North American Lake and Reservoir Management Society
2015	International Society of Limnology Student Competition: National representative for USA
2014-2016	Chair, Student Programs Committee of North American Lake and Reservoir Management Society
2014-2016	Student At-large Director of North American Lake and Reservoir Management Society
2015	Vice Commodore at Kansas Sailing Association; Clinton Lake, Kansas
2013-Present	US Sailing Small Boat Sailing Instructor Certification- Level 2 &3
2013-2017	Self Graduate Fellowship **($165,000 USD/ 4 years);** University of Kansas
2013	North American Lake and Reservoir Management Student travel grant **($500 USD)**
2011	North American Lake and Reservoir Management Student Paper Award Finalist
2011-2012	Department of Fish and Wildlife Resources Jeff Braatne Grant **($5,000 USD);** Univ. of Idaho
2007-2009	School of Natural Resources Dean's List; University of Missouri
2007-2009	Big 12 Conference Commissioner's and Academic First-Team Honors; University of Missouri
2007	Most Improved Swimmer (Men's swim team); University of Missouri
2005-2010	U.S. National, U.S. Open, and U.S. Olympic Trial qualifier and participant (Swimming)
2005-2009	4-year Varsity letter winner (Men's Swimming); University of Missouri
2005-2010	Athletic based scholarship **(10,000 USD/year; Men's Swimming);** University of Missouri
2005-present	US Sailing Small Boat Sailing Instructor- Level 1
2005	Illinois High School State Champion – 100 yard breaststroke (Men's swimming)
2004 & 2005	High School All American – 100 yard breaststroke (Men's swimming)
2004-2005	2-time Jr. Sailor of the Year; Carlyle Sailing Association, Carlyle, Illinois

Service-Student Committees

2017-present	PhD; Liz Renner – Kansas State (primary advisor: Keith Gido – Kansas State)
2018-present	PhD; Jacob Gaskill – University of Missouri (primary advisor: Rebecca North – Missouri)
2019-present	PhD; Misty Porter – University of Kansas (primary advisor: Mary Hill – Kansas)

Service- Journal/Funding Agencies Reviewer

Reviewer- Scholarly journals: *American Midland Naturalist, Aquatic Sciences, Arabian Journal of Geosciences, Chinese Journal of Oceanography, Desalination and Water Treatment, Ecology Letters, Ecosphere, Environmental Pollution, Environmental Science and Pollution Research, Environmental Science: Processes and Impacts, Freshwater Biology, Harmful Algae, Hydrobiologia, Hydrology and Earth System Science, International Journal of Environmental Research and Public Health, Journal of Advanced Research, Journal of Applied Phycology, Journal of Hydroinformatics, Journal of Oceanology and Limnology, Lake and Reservoir Management, Limnology, Limnology and Oceanography, Limnology and Oceanography Letters, Royal Society Open Science, Science of the Total Environment, Toxins, Water, Water Environment Research, Water Research*

Reviewer- Funding Agencies: *Iowa Water Resources Institute, Ohio Water Resources Institute, New Zealand Marsden Fund, U.S. Geological Survey, Minnesota Sea Grant*

Reviewer/Judge: *Kansas Water Office Student Poster contest (multiple years), University of Kansas Field Station student awards*

Service-Testimony to legislative bodies

2019	Kansas Senate committee on Agriculture and Natural Resources. Presented on Harmful Algal Blooms in Kansas. 21 Mar.
2019	Kansas House Committee on Agriculture. Presented on Harmful Algal Blooms in Kansas. 21 Mar.
2018	Kansas House Committee on Water and Environment. Presented on Harmful Algal Bloom (HAB) and sediment coring research by Kansas Biological Survey. 23 Jan.

Service- Professional meeting session chair/co-chairs and committees

2019	**Harris, T.D. (session chair)**. Harmful Algal Blooms. 2019 Association for the Sciences of Limnology and Oceanography Conference. 25 Feb – 1 Mar.
2018	**Harris, T.D. (Meeting chair, organizer, and host)**, deNoyelles, J. 2018 Great Plains Limnology Conf.. 5-6 Oct.
2018	**Harris, T.D. (session chair),** Van de Waal, D., Wilson, A., Pick, F., Leavitt, P., Wood, S. Cyanobacterial and algal metabolites: occurrence, ecology, prediction, and management. 2018 Association for the Sciences of Limnology and Oceanography Conference. 10-15 Jun.

Service- Outreach

2019	**Research advisor** - Maize High School Climate Club. Cheney ReHAB project.
2019	**High School KUFS "Lake Day"** lecture and field lab Maize High School – 10-Oct. Baldwin City High School – 26-Aug.
2018	**High School Guest Lectures/Labs** – all in Kansas Maize High School – EDDIE macrosystems module "Cross-Scale Interactions". 20-Dec. Baldwin City High School – Douglas County Reservoir sampling. 28-Sep.
2018	**KU Field Station Aquatic Facility tours** 7 total Peabody-Burns High School science class. 3-Oct. Kansas River Regional Advisory Committee. 10-Sep. Angela Anderson (Neosho River Regional Advisory Committee). 5-Sep. Brad Bradley (Kansas River Regional Advisory Committee). 27-Aug. NRCS Conservation District managers. 27-Jul. USGS Water Resources Institute. 25-Jul. EPA Region 7 researchers. 8-Jan.
2018	**KU NSF EPSCoR Ecosystems of Kansas Summer Institute** – served as aquatic session co-chair with J. deNoyelles. 4-8 Jun.

Service- Miscellaneous

2019-Present	**Self Graduate Fellowship mentorship program**, Lawrence, KS. Mentor multiple Self Graduate Fellows related to ecology and/or geology.
2018	**Self Graduate Fellowship mock interviewer**, Lawrence, KS. Helped conduct mock job interviews for 4th year Self Graduate Fellows.
2017-Present	**Statewide coordinator for Kansas Harmful Algal Bloom research working group** Kansas Biological Survey, Lawrence, KS

Professional Membership

2017-Present	Global Lake Ecological Observatory Network (GLEON)
2015-2017	International Society of Limnology (SIL)
2011-Present	Association of the Sciences of Limnology and Oceanography
2010-2017	North American Lake Management Society
2011-2012	Oregon Lakes Association
2011-2012	Washington State Lake Protection Association
2005-Present	United States Sailing

Presentations

Baldwin High School AP Bio Students, Ising, A., Sturm, B., DelSontro, T., Grossart, H-P, **Harris, T.D.** 2020. Measuring the effect of nutrient and glyphosate run-off on algal communities in mesocosms. Microbiomes of Aquatic, Plant, and Soil (MAPS) across Kansas 2020 Annual Symposium. Lawrence, KS, USA. 2-Mar.

Bartlett, C., Fullerton, R. Hanna, J., Leon, A., Lin, J., Stanton, I., Hammett, A., **Harris, T.D.,** Kinzinger, E., North, R. 2020. All hands on deck to #RehabHABs: A place-based, project-based (PBL^2) learning project. Microbiomes of Aquatic, Plant, and Soil (MAPS) across Kansas 2020 Annual Symposium. Lawrence, KS, USA. 2-Mar.

Harris, T.D., Yun, J., Baker, D., Kastens, J., Sturm, B., Leavitt, P., Ketterer, M., Amand, A.S. 2020. Phytoplankton and water quality in Milford, Marion, and Keith Sebelius Reservoirs: Results of paleolimnological sediment core and historical data analyses. Kansas Water Office webinar. Topeka, KS, USA. 11-Feb.

Harris, T.D., Webb, L. Building successful partnerships – rowing the same direction. EPA Harmful Algal Bloom conference. Overland Park, KS, USA. 5-Feb. **(Invited)**

Harris, T.D., Yun, J., Baker, D., Kastens, J., Sturm, B., Leavitt, P., Ketterer, M., Amand, A.S. 2020. Harmful algal bloom KBS research update: Are HABs increasing? Kansas Water Authority meeting, Topeka, KS, USA. 29-Jan. **(Invited)**

Harris, T.D., Yun, J. 2020. CyanoHAB mitigation: Current methodologies. HABs in Livestock Water Alliance meeting. Topeka, KS, USA. 23 Jan. **(Invited)**

Yun, J., **Harris, T.D.** 2020. Marion Reservoir – what we know, what we need to learn. Kansas Harmful Algal Bloom Conference. Topeka, KS, USA. 22 Jan. **(Invited)**

Gaskill, J., **Harris, T.D.,** deNoyelles, J., Burgin, A., Shields, A., Baker, S., Webb, L., Klepikow, R., Mash, H., North, R. 2020. Can glacial rock flour be used to control cyanobacterial blooms? Kansas Harmful Algal Bloom Conference. Topeka, KS, USA. 22 Jan. **(Invited)**

Shiozaki, M., Ketabchi Haghighat, S. Feng, S. Sivan, V., Wong, A., **Harris, T.D.,** Deglint, J.L. 2019. Interactive Tool for Aggregating and Visualizing Spatial and Temporal Harmful Cyanobacteria Bloom Data. Global Lakes Ecological Observatory Network. Huntsville, Ontario, CDN. 11 Nov.

Harris, T.D. 2019. Mesocosms, and macrocosms, and whole ponds, oh my! The importance of scale in aquatic experiments. Great Plains Limnology Conference. Ames, IA, USA. Oct. 19th.

Gaskill, J., **Harris, T.D.,** North, R. 2019. Phytoplankton response to changes in light: Can glacial rock flour be used to control cyanobacterial blooms? Great Plains Limnology Conference. Ames, IA, USA. Oct. 19th.

Gaskill, J., **Harris, T.D.,** deNoyelles, J., Burgin, A., Shields, A., Baker, S., Webb, L., Klepikow, R., North, R. 2019. Using a novel geoengineering technique for harmful algal bloom mitigation. Presented at (i) Missouri Life Sciences Week 15-20 Apr. & (ii) School of Natural Resources research day 10-May. Columbia, MO, USA.

Harris, T.D. and GMA members. 2019. Global Microcystin Aggregation GLEON project. Association for the Sciences of Limnology and Oceanography Conference. San Juan, Puerto Rico. 28 Feb.

Gaskill, J., **Harris, T.D.,** deNoyelles, J., Burgin, A., Shields, A., Baker, S., Webb, L., Klepikow, R., Mash, H., North, R. 2019. Exploring phytoplankton response to changes in light and nutrients in mesocosm tanks: Can glacial rock flour be used to control cyanobacterial blooms? Association for the Sciences of Limnology and Oceanography Conference. San Juan, Puerto Rico. 25 Feb.

Harris, T.D. 2019. Excessive plant growth in Kansas. Coffee, Cookies, and Conversation – Shawnee County (KS) Farm Bureau, Topeka, KS, USA. February 21st.

Harris, T.D. 2019. Harmful algal blooms in Kansas. Kansas Environmental Health Association & Kansas Small Flows Association 2019 conference, Lawrence, KS, USA. February 7th.

Young, B.C., Zheng, C.Z., Liu, H., **Harris, T.D.** 2019. Modeling cyanobacteria movement in Milford Lake, Part II. Kansas HAB Stakeholder meeting. Topeka, KS, USA. January 24th.

Harris, T.D., Gaskill, J.A., deNoyelles, J., Burgin, A., Shields, A.R., Baker, S. Webb, L. Klepikow, R., Mash, H., North, R.L. 2018. Large-scale harmful algal bloom experiments at the University of Kansas Field Station. Governor's Conference on the Future of Water in Kansas, Manhattan, KS, USA. November 14th.

Harris, T.D. 2018. Large-scale cyanobacterial experiments. Cyanobacteria twitter conference (#cyanoTC2018). October 24th. **(Invited)**

Gaskill, J. **Harris, T.D.,** deNoyelles, J., Burgin, A., Shields, A., Baker, S., Webb, L., Klepikow, R., Mash, H., North, R. 2018. Can glacial rock flour be used to reduce algal biomass in large-scale mesocosms. Great Plains Limnology Conference. Lawrence, KS, USA. Oct. 6th. (poster)

Overstreet, E.V., **Harris, T.D.,** Kelly, M.C., deNoyelles, J., Burgin, A.J. 2018. How do nitrogen form and ratio affect nitrogen fixation rates in experimental mesocosms? Great Plains Limnology Conference. Lawrence, KS, USA. Oct. 6th. (poster)

Harris, T.D. and deNoyelles, F. 2018. Welcome to the University of Kansas Field Station. Great Plains Limnology Conference. Lawrence, KS, USA. Oct. 6th.

Harris, T.D. 2018. Harmful Algal Blooms working group: What has happened so far? Kansas Water Authority meeting. Manhattan, KS, USA. Aug. 22th. **(Invited)**

Harris, T.D. 2018. Harmful Algal Bloom research in Kansas. Kansas Field Conference. Milford, KS, USA. Aug 14th. **(Invited)**

Van de Waal, D., **Harris, T.D.**, Fronen, B., Liu, J. Kulkarni, P., Garbeva, P. 2018. Biological stoichiometry of cyanobacterial secondary metabolites. Annual meeting of the Association for the Sciences of Limnology & Oceanography, Victoria, British Columbia, CDN. June 15th.

Harris, T.D. 2018. Harmful Algal Blooms working group overview. Navigating A Kansas Water Future. Lawrence, KS, USA. May 14th. **(Invited)**

Harris, T.D. 2018. Cyanobacterial blooms in Missouri. Guest lecture in University of Missouri Water Quality graduate and undergraduate course. Columbia, MO, USA. April 30th. **(Invited)**

Harris, T.D. 2018. Cyanobacterial blooms in Kansas: causes, controls, and planned 2018 research. Neosho Regional Advisory Committee meeting. Hillsboro, KS, USA. March 5th. **(Invited)**

Harris, T.D. 2018. Bottom-up effects of Harmful Algal Blooms (HABs) on higher trophic levels: impacts on zooplankton and fish. Kansas Natural Resources Conference. Manhattan, KS, USA. February 9th.

Harris, T.D. 2018. Replication versus realism: the importance of scale in cyanobacterial experiments. Kansas HAB Stakeholder meeting. Topeka, KS, USA. January 18th. **(Invited)**

Harris, T.D. 2017. Harmful cyanobacterial blooms in Kansas. Governor's Conference on the Future of Water in Kansas, Manhattan, KS, USA. November 9th.

deNoyelles, J., Kastens, J., **Harris, T.D.**, Martinko, E., Jakubasuskas, M., Rahmani, V., Liechti, P., Campbell, S., Whistler, J., Bennett, L., Bosnak, K., Sloan, T., Blackwood, A., Dewey, S., Carney, E. 2017. Kansas surface water supplies continue to be challenged: understanding causes to guide effective management. Governor's Conference on the Future of Water in Kansas, Manhattan, KS, USA. November 9th.

Harris, T.D. Graham, J.L., Jones, J.R., Obrecht, D.V., and Thorpe, A. 2017. Predicting recent microcystin occurrence from historical data in Missouri. Great Plains Limnology Conference, Columbia, MO, USA. October 14th.

Harris, T.D. 2017. Factors affecting water quality and cyanobacterial bloom occurrence and magnitude. Engineering Research and Development Center. Vicksburg, MS, USA. March 9th. **(Invited)**

Harris, T.D. Jones, J.R., Graham, J.L., Obrecht, D.V., and Thorpe, A. 2017. Relations between nutrients, temperature, and microcystin in 15 Missouri reservoirs. Annual meeting of the Association for the Sciences of Limnology & Oceanography, Honolulu, HI, USA. March 3rd.

Harris, T.D. 2017. Factors affecting local, regional, and global scale cyanobacterial dominance and secondary metabolite occurrence. Dissertation Defense. Lawrence, Kansas, USA. February 10th.

Harris, T.D. 2017. Comparing predictive modeling techniques for cyanobacterial abundance, microcystin, and geosmin in Cheney Reservoir, Kansas. 2017 Kansas Natural Resources Conference. Wichita, Kansas, USA. January 26-27.

deNoyelles, J., Kastens, J., **Harris, T.D.**, Martinko, E., Jakubasuskas, M., Rahmani, V., Liechti, P., Campbell, S., Whistler, J., Bennett, L., Bosnak, K., Sloan, T., Blackwood, A., Dewey, S., Carney, E. 2017. Impounding rivers and streams in Kansas: water storage continues to challenge landscape management. 2017 Kansas Natural Resources Conference. Wichita, Kansas, USA. January 26-27.

Harris, T.D. 2016. Comparing predictive modeling techniques for cyanobacterial abundance, microcystin, and geosmin in a eutrophic Midwestern USA drinking water supply reservoir. 36th Annual meeting of the North American Lake Management Society, Banff, Alberta, Canada. November 3.

Harris, T.D. and Smith, V.H. 2016. Do persistent organic pollutants stimulate harmful cyanobacterial blooms? Annual meeting of the Association for the Sciences of Limnology & Oceanography, Santa Fe, NM, USA. June 7th.
Also presented at: (i) Congress XXXIII of the International Society of Limnology. Turin, Italy. August 4th and **(ii)** 2017. Department of Aquatic Ecology meeting, Netherlands Institute of Ecology, Wageningen, Netherlands. April 11th.

Harris, T.D., Smith, V.H., Graham, J.L., Van de Waal, D.B., Tedesco, L.P., Clercin, N. 2015. Combined effects of N:P ratios and nitrogen speciation on three cyanobacterial metabolite concentrations in eutrophic Midwestern USA reservoirs. 35th Annual meeting of the North American Lake Management Society, Saratoga Springs, NY, USA. November 20th.

Harris, T.D. and Smith, V.H. 2015. Do persistent organic pollutants stimulate harmful cyanobacterial blooms? Bio^3 Seminar Series 2015, Lawrence, KS, USA. August 25. (**Invited**)

Harris, T.D., Smith, V.H., Graham, J.L., Van de Waal, D.B., Tedesco, L.P., Clercin, N. 2015. Combined effects of the nitrogen to phosphorus ratio and nitrogen speciation on three cyanobacterial metabolite concentrations in eutrophic reservoirs. Annual meeting of the Association for the Sciences of Limnology & Oceanography, Granada, Spain. Feb 27.

Harris, T.D. 2014. QA/QC. KSWSC training series. USGS KSWSC, Lawrence, KS. Apr 15.

Harris, T.D. 2014. "In the Beginning" Project planning and review, project proposals, project work (and sample) plans, project reviews. KSWSC training series. USGS KSWSC, Lawrence, KS. Feb 11.

Rajkovich, H. E., Wilhelm, F. M., **Harris, T.D.**, and Adams, C. J. 2014. Summary of research at Willow Creek Reservoir to understand the occurrence of blue-green algae blooms. Morrow County Soil and Water Conservation District Annual Meeting, Heppner, OR, USA. January 17.

Harris, T.D. and Graham, J. L. 2013. Seven years of continuously monitoring chlorophyll and cyanobacteria in an eutrophic Midwestern US reservoir. 33rd Annual meeting of the North American Lake Management Society. San Diego, California, USA. November 1.

Wilhelm, F. M., **Harris, T.D.**, Adams, C. J., and Rajkovich, H. E. 2013. The ecology of blue-green algae blooms and implications to management concerning water quality. Coeur D'Alene Lake Tributaries Watershed Advisory Group, Coeur D'Alene, ID, USA. May 16.

Wilhelm, F. M., **Harris, T.D.**, Graham, J. L., and Loftin, K. A. 2013. The ecology of blue-green blooms and implications to management decisions concerning water quality. 23rd Annual Idaho Department of Environmental Water Quality Conference. Boise, ID, USA. February 12-14.

Harris, T.D., Wilhelm, F. M., Graham, J. L., and Loftin, K. A. 2013. Manipulating the nitrogen to phosphorus ratio in lakes and reservoirs: a management strategy to reduce toxic cyanobacterial blooms. 2013 Kansas Natural Resources Conference. Wichita, Kansas, USA. January 24-25.

Harris, T.D., Wilhelm, F. M., Graham, J. L., and Loftin, K. A. 2012. Experimental additions of alum and nitrogen to large-scale *in situ* mesocosms to reduce algal biovolume and microcystin concentration. 32nd Annual meeting of the North American Lake Management Society. Madison, Wisconsin, USA. November 7-9.

Harris, T.D., Wilhelm, F. M., Graham, J. L., and Loftin, K. A. 2012. Potential short-term management strategy to reduce toxic cyanobacterial blooms by manipulation of the nitrogen to phosphorus ratio. 2012 Governor's Conference on the Future of Water in Kansas. Manhattan, Kansas, USA. October 30-31.

Harris, T.D. 2012. Suppression of toxin producing algae by experimental manipulation of the nitrogen to phosphorus ratio in large-scale *in situ* mesocosms. 2012 Innovation showcase. Moscow, Idaho, USA. April 19.

Harris, T.D., Wilhelm, F. M., Graham, J. L., and Loftin, K. A. 2011. Alteration of nutrient regimes in large-scale *in situ* enclosure experiments to reduce cyanobacterial biovolume and toxicity. 31st Annual meeting of the North American Lake Management Society. Spokane, Washington, USA. October 25-28.

Harris, T.D. and Wilhelm, F. M. 2011. Willow Creek Reservoir: cyanobacteria and toxin production related to nutrient ratios. 2011 Oregon Lakes Association annual meeting. Portland, Oregon, USA. October 21-22.

Harris, T.D. 2010. An in-lake experimental test of algal density and toxicity in altered nutrient regimes. FISH 501. Moscow, ID, USA. October 18.

Press

2019	Kansas Biological Survey dipping into cause, consequences of algae blooms. *The Topeka Capital-Journal*. Reporter: Tim Carpenter. 21-Mar.
2019	Rock Chalk Review: Mysterious threats – Algal bloom outbreaks focus of vital Biological Survey research. *Kansas Alumni magazine*.
2018	Kansas NSF EPSCoR announces the MAPS REI Award Recipients. *Kansas NSF EPSCoR (KNE) News*. Oct 5th.
2018	Project probes algae. *The Topeka Capital-Journal*. Reporter: Katie Bernard. Oct 5th.

2018 Scientists plotting war on pond scum in Kansas. *National Public Radio & Kansas News Service*. Reporter: Brian Grimmett. Aug 20. Also reported in multiple newspapers in Kansas via the Kansas News Service network– e.g., The Hutchinson News on 26-Aug

2014 Nutrient ratios could affect microcystin occurrence. United States Geological Survey Newsroom. Press release for 2014 publications completed during MS research. 2-Mar

Workshops Attended

2017 Biosonics Aquatic Habitat Assessment Workshop. Taught by: Brian Moore and Biji Kobara. Seattle, WA. Oct 24-25.

2012 Collection, identification, ecology, and control of freshwater algae- advanced course. Taught by: Ann St. Amand, Ken Wagner, Andy Chapman, and Barry Rosen. Madison, WI. Nov 6.

2011 Collection, identification, and ecology of freshwater algae. Taught by: Ann St. Amand. Saint Joseph, MI. July 7-8.

Published USGS datasets

Graham, J.L. and **Harris, T.D.** 2016. Phytoplankton data for Cheney Reservoir near Cheney, Kansas, June 2001 through November 2015: US Geological Survey data release. Website: http://dx.doi.org/10.5066/F71N7Z7V

MADISON AND LILA SELF GRADUATE FELLOWSHIP, THE UNIVERSITY OF KANSAS

Strong Hall, 1450 Jayhawk Blvd., Room 158, Lawrence, Kansas 66045
(785) 864-7249 – www.selfgraduate.ku.edu

Self Graduate Fellows are selected on the basis of their academic ability and achievements, leadership attributes, vision, and motivation to make significant contributions in their fields and in society. The Fellow Development Program is a distinctive feature of the Self Graduate Fellowship. It provides general education and training in communication, management, and leadership to assist Fellows in their preparation for future leadership roles, complementing the specialized education and training provided in Ph.D. programs. The four-year development program includes individual coaching in oral and written communication, skill sessions, a symposium, luncheons, and a government and science policy seminar in Washington, D.C.

FELLOW DEVELOPMENT PROGRAM
2013–2017 Self Graduate Fellows

2013–2014 *(58 contact hours)*
Public Policy: Kansas Energy Resources. Rex Buchanan, Kansas Geological Survey. *3 hrs.*
Effective Decision Making: Obstacles and Skills. Rick Larrick, Fuqua School of Business, Duke University. *14 hrs.*
Cultural Influences on the Communication Processes. Yan Bing Zhang, communication studies, University of Kansas. *4 hrs.*
How to Win Friends and Influence People in Business. Ron Cox, Dale Carnegie Training. *7 hrs.*
Exercising Leadership for Progress: Adaptive Leadership and Change. Ron Alexander, R. E. Alexander and Associates. *14 hrs.*
Energizing Change: The Self Graduate Fellowship's Action Imperative. Karl B. Brooks, Region 7 Administrator, USEPA. *2 hrs.*
Graduate Writing: Where the Rubber Meets the Road. Christine Jensen Sundstrom, Appl. English Ctr., Univ. of Kansas. *6 hrs.*
Effective Communication and Critical Thinking. Robert Rowland, communication studies, University of Kansas. *8 hrs.*

2014–2015 *(50 contact hours)*
Public Policy: The Affordable Care Act and Health Care Reform. Linda Sullivan, Kansas Health Institute. *1 hr.* **Financial Accounting.** Allen Ford, accounting, University of Kansas. *6 hrs.*
Personal Finance and Investment Strategies. Kelly Welch, finance, University of Kansas. *7 hrs.*
Ideas in Chains: Innovation Law. Andrew Torrance, law, University of Kansas. *3 hrs.*
Career Development. Thomas Krieshok, psychology and research in education, University of Kansas. *6 hrs.*
The Human Side of Leading Innovation. Ralph Katz, Massachusetts Institute of Technology/Northeastern University. *13 hrs.*
Understanding the Evolution of Healthcare. Matt Ackerman, Lilly USA. *2 hrs.*
Communication: Social Media and Integrated Communications. Hyunjin Seo, journalism, University of Kansas. *4 hrs.*
Communication: Seminar Presentation. Robert Rowland, communication studies, University of Kansas. *8 hrs.*

2015–2016 *(75 contact hours)*
Public Policy: Higher Education Leadership and Policy Introduction. Lisa Wolf-Wendel, education, University of Kansas. *2 hrs.*
Public Policy: Higher Education Leadership and Policy History. John Rury, education, University of Kansas. *1 hr.*
Negotiation and Conflict Resolution. Michael Haselhuhn, School of Business Admin., University of California, Riverside. *14 hrs.*
Government and Science Policy Seminar. Washington, D.C. *20 hrs.*
Business Planning for New Technology-based Ventures. Matthew McClorey, CritiTech, Inc. *13 hrs.*
Accounting for Business Costs. Kelvie Crabb, business, University of Kansas. *4 hrs.*
Wireless Technologies: From Entertaining to Essential. Cory Beard, School of Engineering, University of Missouri-KC. *2 hrs.*
Written Communication: Writing for Publics. Amy Devitt, English, University of Kansas. *4 hrs.*
Communicating about Your Research: Key Messages. Susan Bell Tomai and Bill Connor, Oratorio Media Training. *7 hrs.*
Communication: Public Presentation. Robert Rowland, communication studies, University of Kansas. *8 hrs.*

2016–2017 *(47 contact hours)*
Public Policy: Governing Speech in a Networked Society. Jonathan Peters, journalism, University of Kansas. *2 hrs.*
Increasing your "EQ" for Positive Outcomes. Chad Carden and Adam Carroll, The Carden Group. *15 hrs.*
Strategic Crisis Communication. Sharon Watson, Johnson County Kansas. *7 hrs.*
Project Management – An Art and Science. Kenneth Ward, business, University of Kansas. *7 hrs.*
White House Decision Center. Harry S. Truman Presidential Library and Museum. *6 hrs.*
Making a Difference – What's Love Got to Do With it? Charles Svoboda, Boeing Research & Technology. *2 hrs.*
Communication: Job Talks. Robert Rowland, communication studies, University of Kansas. *8 hrs.*

In addition, each year two to six luncheon speakers provided examples of public policy topics and leadership, and career strategies in business, government, and higher education.