

Daniel R. O'Donnell

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Education

Ph.D. 2017 (expected)	Michigan State University, East Lansing, MI Kellogg Biological Station, Hickory Corners, MI Dual degree in Integrative Biology and Ecology, Evolutionary Biology, & Behavior (EEBB)
B.A. (High Honors) 2011	Dartmouth College, Hanover, NH Biology: Evolutionary Ecology

Honors and Awards

2017	Marvin K. Hensley Fellowship Michigan State University College of Natural Sciences \$8000
2015-2017	Kellogg Biological Station undergraduate mentoring fellowship \$1000 per NSF REU or MSU Undergraduate Research Apprentice \$5000 total
2013	NSF Graduate Research Fellowship Ecology \$120,000
2011	High Honors Dartmouth College Biology Department
2011	Christopher G. Reed Biologist Award Dartmouth College Biology Department \$750
2009	John Sloan Dickey Center For International Understanding Student Fellowship Water and Fisheries Internship, Jinja, Uganda \$3000
2009	Citation for Meritorious Performance

Biology 015 “Evolution and Genetic Change”
Professor: Andrew D. Kern

2006 Lee Griffin Academic Scholarship
Kickapoo High School, Viola, WI
\$6000

Mentoring Experience

Elena Litchman Lab, MSU Kellogg Biological Station

- 2017 (Summer) Undergraduate Research Apprenticeship Mentor
Ayley Shortridge, Junior at Michigan State University
Evolution of thermal reaction norms in a marine diatom
- NSF Research Experience for Undergraduates Mentor
Sophia Beery, Senior at Ohio Northern University
Evolutionary effects of temperature on diatom cell morphology
- 2016 (Summer) Undergraduate Research Apprenticeship Mentor
Olivia Porth, Junior at Michigan State University
Interactive effects of temperature and nitrate on algal growth.
- NSF Research Experience for Undergraduates Mentor
Clare Harper, Senior at Beloit College
Physiological acclimation to temperature in a marine diatom.
- 2015 (Summer) Guided independent research mentor
Carolyn Hamman, University of Miami*
Nutrient- and temperature-dependent growth of phytoplankton
- Research Experience for Undergraduates Mentor
Evan Johnson, Kalamazoo College*
Senior thesis research on competition modeling and experiments
- 2014 (Summer) Guided independent research mentor
Evan Johnson, Kalamazoo College
Local adaptation in Michigan phytoplankton
- NSF Research Experience for Teachers Mentor
Connie High, Delton-Kellogg High School
Lake Baikal phytoplankton abundance and diversity
- NSF Research Experience for Teachers Mentor
Jodie McManus, Parchment High School

Environmental drivers of pigmentation in a green alga

NSF Research Experience for Undergraduates Mentor

Farhana Haque, U. Texas, Austin, 2015

Methods for longitudinal studies of phytoplankton cell size and population growth

2013-2014

Kalamazoo Math and Science Center Research Team Mentor

Carolyn Hamman, 2015 high school grad

Axenic culture methods and trait measurement in a marine diatom

Kathy Cottingham Lab, Dartmouth College

2010-2011

Women in Science Project Mentor

Emilia Hull, Dartmouth College class of 2014

Grazer-induced morphological change in a green alga

Teaching Experience

2017

Graduate Teaching Assistant

BIOSCI 172 (Organisms & Populations lab)

MSU Kellogg Biological Station

Supervisor: Dr. Michael Kuczynski

2016,2017

Graduate Teaching Assistant

STT 224 (Statistics for Ecologists)

MSU Kellogg Biological Station

Supervisor: Dr. Michael Kuczynski

2013

Graduate Teaching Assistant

Zoology 483 (Environmental Physiology)

Michigan State University

Supervisor: Dr. Richard Hill

2012

Graduate Teaching Assistant

Biological Sciences 171 (Cells and Molecules)

Michigan State University

Supervisor: Dr. John Urbance

2009-2011

Undergraduate Teaching Assistant (4 terms)

BIOL 016 (Introductory Ecology), BIOL 027 (Animal Behavior)

Dartmouth College, Hanover, NH

Supervisor: Craig Layne

*Expected co-authorship on manuscript in prep.

Peer-Reviewed Publications

- 2017 **O'Donnell, DR**; Wilburn, P; Silow, EA; Yampolsky, L and E Litchman. Nitrogen and phosphorus colimitation of phytoplankton in Lake Baikal: insights from a spatial survey and nutrient enrichment experiments. *Limnology and Oceanography*. doi: 10.1002/lno.10505.
- 2014 **O'Donnell, DR**; Parigi, A; Fish, JA; Dworkin, I and AP Wagner. 2014. The roles of standing genetic variation and evolutionary history in determining the evolvability of anti-predator strategies. *PLoS One* **9**(6):e100163
- 2012 **O'Donnell, DR**; Fey, SB and KL Cottingham. 2013. Nutrient availability influences kairomone-induced defenses in *Scenedesmus acutus* (Chlorophyceae). *Journal of Plankton Research* **35**(1):191-200.

Manuscripts in Review

N/A

Other Publications

- 2010 Brown, NJ; Fownes, JF; Grear, M and **DR O'Donnell**. 2010. Blindfolded Birdwatching: The Effect of Harmonics on Localization of Bird Calls. *Dartmouth Undergraduate Journal of Science* **12**(3):43-45.

Conference Talks

- 2016 **O'Donnell, DR**; Hamman, CR; Johnson, E; Klausmeier, CA and E Litchman. 2015. Consequences of 400 generations of experimental thermal adaptation in a marine diatom. *Evolution 2016*. Austin, TX.
- 2015 (invited) Litchman, E; **DR O'Donnell**, Kremer, CT and MK Thomas. 2015. Trait-based assessment of ecological and evolutionary responses of microbes to temperature. *ESA Annual Meeting*. Baltimore, MD.
- 2015 **O'Donnell, DR**; Wilburn, P and E Litchman. 2015. Bottom-up limitation of primary production in Lake Baikal, Siberia: insights from a spatial survey and nutrient enrichment experiments. *ASLO ASM 2015*. Granada, Spain.

Poster Presentations

- 2016 **O'Donnell, DR**; Johnson, EC; Hamman, CR and E Litchman. 2016. Consequences of 400 generations of thermal adaptation in a marine diatom and implications for rapid evolution in response to global change. *BEACON Congress, 2016*. Beacon Center for Evolution in Action. Michigan State University.

- 2016 Litchman E; **O'Donnell, DR** and M Aranguren-Gassis. 2016. Rapid adaptation to high temperature in marine diatoms reveals a growth rate-competitive ability trade-off and increases extreme temperature tolerance. *ASM Meeting on Microbial Experimental Evolution*. Washington, DC.
- 2016 Litchman, E; **O'Donnell, DR** and M Aranguren-Gassis. Rapid adaptation to high temperature in marine diatoms may alter their nutrient competitive abilities and extreme temperature tolerance. *ISME 2016*. Montreal, Canada.
- 2015 **O'Donnell, DR**; Corkrey, R and E Litchman. 2015. (Co)variation of microbial thermal traits across the thermokinetic range of life on Earth. *USRA Astrobiology Science Conference, 2015*. Chicago, Illinois.
Link: <http://www.hou.usra.edu/meetings/abscicon2015/eposter/7755.pdf>
- 2014 **O'Donnell, DR**; Parigi, A; Fish, JA; Dworkin, I and AP Wagner. 2014. The roles of standing genetic variation and evolutionary history in determining the evolvability of anti-predator strategies. *BEACON Congress, 2014*. Beacon Center for Evolution in Action. Michigan State University.
- 2011 **O'Donnell, DR**; Hull, E and KL Cottingham. Phosphorus and *Daphnia* kairomones: effects on *Scenedesmus* growth and morphology. *Wetterhahn Undergraduate Poster Symposium*. Dartmouth College.

Academic and Professional Memberships

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| 2016-present | Society for the Study of Evolution
Student Member |
| 2016-present | Ecological Society of America
Student Member |
| 2014-present | Phycological Society of America
Student Member |
| 2014-present | Association for the Sciences of Limnology and Oceanography
Student Member |
| 2014-present | Phi Kappa Phi academic honor society
Invited member |

Other Research and Field Experience

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| 2012 | Research Assistant
Kangerlussuaq, Greenland
Supervisor: Lauren Culler (Ph.D. Candidate, Dartmouth College)
Research on the distribution, abundance, and phenology of Arctic |
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mosquitoes (*Aedes nigripes*)

2010-2011 Undergraduate Honors Student
Dartmouth College, Hanover, NH
Adviser: Dr. Kathy Cottingham
*Phosphorus and Daphnia magna kairomones: effects on
Scenedesmus acutus growth and morphology*

2009 Water and Fisheries Intern
National Fisheries Resource Research Institute, Jinja, Uganda
Laboratory and field intern in water chemistry and plankton labs

Languages

English – Native language

Spanish – Read, write, and speak fluently in multiple dialects

French – Basic reading, writing, and speaking skills

Professional Skills and Certifications

Open-Water (2009) Instructor: Marc Braun
Diver Cert. New England Dive Center (SCUBA Schools International)
Lebanon, NH

TEFL Cert. (2007) EBC TEFL International, Buenos Aires, Argentina
Teaching English as a Foreign Language