

BRYNDAN PAIGE DURHAM

Department of Biology
Genetics Institute
University of Florida
404 Cancer & Genetics Research Complex, Gainesville, FL 32610
phone: (352) 294-6312; email: b.durham@ufl.edu

EDUCATION

Ph.D., Microbiology, University of Georgia
Advisor, Mary Ann Moran, 2008 – 2014

B.S., Biological Science, Virginia Polytechnic Institute and State University
Microbiology emphasis, Minors in Chemistry and mathematics, *magna cum laude*, 2004 – 2008

APPOINTMENTS & RESEARCH

Assistant Professor, University of Florida, 2019 – current
Dept. of Biology & Genetics Institute

Research Associate, University of Washington, 2017 – 2019
NSF Postdoctoral Research Fellow, University of Washington, 2015 – 2017
School of Oceanography, Advisor: E. Virginia Armbrust

Graduate Research Assistant, University of Georgia, 2008 – 2014
Dept. of Marine Sciences. Advisor: Mary Ann Moran

Undergraduate Laboratory Assistant, Virginia Bioinformatics Institute, Virginia Tech, 2005 – 2008
Dept. of Plant Pathology, Physiology, & Weed Science, Advisor: Brett M. Tyler

PUBLICATIONS

Underline=Graduate student co-author

Boysen AK, **Durham BP**, Kumler W, Key RS, Heal KR, Carlson LT, Groussman RD, Armbrust EV, Ingalls AE. Glycine betaine uptake and metabolism in marine microbial communities. *Environmental Microbiology*, online ahead of print.

Carlson MCG, Ribalet F, Maidanik I, **Durham BP**, Hulata Y, Ferrón S, Weissenbach J, Shamir N, Goldin S, Baran N, Cael BB, Karl DM, White AE, Armbrust EV, Lindell D. 2022. Viruses affect picocyanobacterial abundance and biogeography in the North Pacific Ocean. *Nature Microbiology* 7, 570-580.

Lambert BS, Groussman RD, Schatz MJ, Coesel SN, **Durham BP**, Alverson AJ, White AE, Armbrust EV. 2022. The dynamic trophic architecture of open-ocean protist communities revealed through machine learning. *Proc Natl Acad Sci USA* 119:e2100916119.

Groussman RD, Coesel SN, **Durham BP**, Armbrust EV. 2021. Diel-regulated transcriptional cascades of microbial eukaryotes in the North Pacific Subtropical Gyre. *Frontiers in Microbiology* 12:2542.

Durham BP. 2021. Deciphering metabolic currencies that support microbial networks. *mSystems* 6:e0076321.

Boysen AK, Carlson LT, **Durham BP**, Groussman RD, Aylward FO, Ribalet F, Heal KR, White AE, Delong EF, Armbrust EV, Ingalls AE. 2021. Particulate metabolites and transcripts reflect diel oscillations in microbial activity in the surface ocean. *mSystems* 6:e00896-20.

Heal KR, **Durham BP**, Boyen AK, Carlson LT, Qin W, Ribalet F, White AE, Bundy RM, Armbrust EV, Ingalls AE. 2021. Community metabolomes reflect taxon-specific fingerprints of phytoplankton in the ocean. *mSystems* 6:e01334-29.

Coesel SN, **Durham BP**, Groussman RD, Hu SK, Caron DA, Morales RL, Ribalet F, Armbrust EV. 2021. Diel transcriptional oscillations of light-sensitive regulatory elements in open-ocean eukaryotic phytoplankton communities. *Proc Natl Acad Sci USA* 112:453-457.

Moran MA, **Durham BP**. Sulfur metabolites in the pelagic ocean. 2019. *Nature Reviews Microbiology* 17: 665-678.

Durham BP, Boysen AK, Carlson LT, Groussman RD, Heal KR, Cain KR, Morales RL, Coesel SN, Morris RM, Ingalls AE, Armbrust EV. 2019. Sulfonate-based networks between eukaryotic phytoplankton and heterotrophic bacteria in the surface ocean. *Nature Microbiology* 4: 1706-1715.

Landa M, Burns AS, **Durham BP**, Esson K, Nowinski BC, Sharma S, Vorobev A, Nielsen T, Kiene RP, Moran MA. 2019. Sulfur metabolites that facilitate oceanic phytoplankton-bacteria carbon flux. *ISME Journal* 13:2536-2550.

Becker KW, Collins JR, **Durham BP**, Groussman RD, White AE, Fredricks HF, Ossolinski JE, Repeta DJ, Carini P, Armbrust EV, Van Mooy BAS. 2018. Daily changes in phytoplankton lipidomes reveal mechanisms of energy storage in the open ocean. *Nature Communications* 9: 5179.

Durham BP, Dearth SP, Sharma S, Amin SA, Smith CB, Campagna SR, Armbrust EV, Moran MA. 2017. Recognition cascade and metabolite transfer in a marine bacteria-phytoplankton model system. *Environmental Microbiology* 19:3500-3513.

Amin SA, Hmelo LR, van Tol HM, **Durham BP**, Carlson LT, Heal KR, Morales RL, Berthiaume CT, Parker MS, Djunaedi B, Ingalls AE, Parsek MR, Moran MA, Armbrust EV. 2015. Interaction and signalling between a cosmopolitan phytoplankton and associated bacteria. *Nature* 522:98-101.

Varaljay VA, Robidart J, Preston CM, Gifford SM, **Durham BP**, Burns AS, Ryan JP, Marin III R, Kiene RP, Zehr JP, Scholin CA, Moran MA. 2015. Single-taxon field measurements of bacterial gene regulation controlling DMSP fate. *ISME Journal* 9:1677-1686.

Durham BP, Sharma S, Luo H, Smith CB, Amin SA, Bender SJ, Dearth SP, Van Mooy BAS, Campagna SR, Kujawinski EB, Armbrust EV, Moran MA. 2015. Cryptic carbon and sulfur cycling between surface ocean plankton. *Proc Natl Acad Sci USA* 112:453-457.

Durham BP, Grote J, Whittaker KA, Bender SJ, Luo H, Grim SL, Brown JM, Casey JR, Dron A, Florez-Leiva L, Krupke A, Luria CM, Mine AH, Pather S, Talarmin A, Wear EK, Weber TS, Wilson JM, Church MJ, DeLong EF, Karl DM, Steward GF, Eppley JM, Kyrpides NC, Schuster S, Rappé MS. 2014. Draft genome sequence of marine alphaproteobacterial strain HIMB11, the first cultivated representative of a unique lineage within the Roseobacter clade possessing a remarkably small genome. *Standards in Genomic Sciences* 9:632-645.

Moran MA, Satinsky B, Gifford SM, Luo H, Rivers A, Chan LK, Meng J, **Durham BP**, Shen C, Varaljay VA, Smith CB, Yager PL, Hopkinson BM. 2013. Sizing up metatranscriptomics. *ISME Journal* 7:237-243.

UPCOMING PUBLICATIONS

Underline=Graduate student co-author

Durham BP, Boysen AK, Heal KR, Carlson LT, Boccamazzo R, Deodato CR, Qin W, Cattolico RA, Armbrust EV, Ingalls AE. Chemotaxonomic patterns in the metabolomes of marine microbial plankton. *Frontiers in Marine Science*, in revision.

Park J, **Durham BP**, Key RS, Groussman RD, Pinedo-Gonzalez P, Hawco NJ, John SG, Carlson MCG, Lindell D, Juranek L, Ferrón S, Ribalet F, Armbrust EV, Bundy RM. Siderophore production and utilization by microbes in the North Pacific Ocean. *Limnology & Oceanography*, in review.

GRANTS & OTHER SUPPORT

**current*

***Durham BP** (PI), Reisch CR (coPI). “Linking metabolites and genetic pathways that facilitate marine microbial networks.” 2022-2024. UF Research Opportunity Seed Fund. Total Award: \$90,000.

***Durham BP** (PI). Simons Early Career Investigator in Marine Microbial Ecology and Evolution Award. 2022 – 2025. Simons Foundation. Total award: \$666,000.

*Subalusky A (PI), Ponciano JM (coPI), Longo A (Senior Personnel), **Durham BP** (Senior Personnel). “Meta-gut dynamics influence aquatic ecosystem processes.” Award No. 2103884. 2021 – 2023. National Science Foundation. Total award: \$299,629. Funds to Durham: Direct \$5,473; Indirect: \$2,873.

*McDaniel SF (PI), Rosenstiel TN (coPI), **Durham BP** (coPI). “The metabolic basis of bryophyte-microorganism interactions.” 2021. DOE JGI Community Sequencing Program FY2021.

Durham BP (PI). Sample cruise request. 2021-2022. Florida Institute of Oceanography.

Durham BP (PI). SCOPE Scholars Award: “Linking microbial taxonomy and metabolic activity in the North Pacific Transition Zone.” Award No. 823165. 2021. Simons Foundation. Total award: \$60,000.

Durham BP (PI). OCE-PRF Track 1 (Broadening Participation): “Cryptic Sulfonate Cycling between Marine Phytoplankton and Heterotrophic Bacterioplankton.” Award No. 1521564. 2015 – 2017. National Science Foundation. Total award: \$174,000.

Durham BP (PI). “2016 Gordon Research Seminar and Conference on Marine Microbes.” Award No. 1643240. 2016. National Science Foundation: Biological Oceanography Program. Total award: \$12,900.

Durham BP (PI). “2016 Marine Microbes Gordon Research Seminar: Microbe Coexistence and Coevolution in a Changing Ocean.” Award No. 430117. 2016. Simons Foundation. Total award: \$3,000.

Moran MA (PI), **Durham BP** (coPI). “Transcriptional Analysis of a Marine Bacteria-Phytoplankton Binary Model System.” 2011. DOE JGI Community Sequencing Program FY2011.

TEACHING EXPERIENCE

Instructor of Record, UF, BSC4930 Special Topics: Biological Oceanography, Spring 2021, Fall 2021
UF, BSC2010 Integrated Principles of Biology, Spring 2020, Fall 2020, Spring 2022

Guest Lecturer, UF, ZOO4403C Marine Biology, Fall 2019, Fall 2021
UF, GLY3083 Fundamentals of Marine Science, Spring 2020
UF, ZOO4403C Marine Biology, Fall 2019
UW, OCEAN/FISH/BIO 477: Seminar in Marine Biology, Winter 2019
UW, ESRM429: Ecosystem Services, Winter 2017

Graduate Teaching Assistant, UGA, MIBO2500L: Microbiology and Health Care, Spring 2011, 2012

SUPERVISORY EXPERIENCE

**Student presentations & awards listed subsequently*

Postdoctoral Advisor, Nicole Lynn-Bell, UF: 2022 – current (*Biology; co-advised with Amanda Subalusky*)

Graduate Advisor, Laurel Meke, UF: 2021 – current (*Biology*)
Rebecca S. Key, UF: 2020 – current (*Biology; co-advised with Stuart McDaniel*)

External Graduate Committee Member,
McKenzie Powers, UGA, 2021– current, *Dept. Mar. Sci., advisors M Moran & B Hopkinson*
Aneirin (Nye) Lott, UF: 2020 – current (*PMCB Program; advisor S Chen*)
Garrett Sharpe, UNC, 2020 – current (*Dept. Mar. Sci.; advisors S Gifford & A Septer*)

Undergraduate Research Mentor, Priyanka Chandra; UF: 2022 – current

Alina Puthiyadam; UF: 2022 – current
Ashley Ohall*; UF: 2021 – current
Mardeliz Martinez, UF: 2020 – 2021
Alora Richardson, UF: 2020
Kelsy Cain, UW: 2018 – 2019
Grace Workman, UW: 2016 – 2017
Rachel Boccamazzo*, UW: 2016 – 2017
Vera Okolo*, UW: 2015 – 2016
Blake Edwards*, UGA: 2013 – 2014
Alyson Krisher, UGA: 2011 – 2013
Noah Lawler, UGA: 2009 - 2011

UF Undergraduate Research Symposium, Student Poster Presenter, 2022: Ashley Ohall

UF Journal of Undergraduate Research, Student Research Publication, 2022: Ashley Ohall

UF University Scholar Award Recipient, 2021: Ashley Ohall

UW Mary Gates Research Scholarship Recipient, 2017: Rachel Boccamazzo

UW Ronald E. McNair Scholarship Recipient, 2017: Rachel Boccamazzo

UW Undergraduate Research Symposium, Student Oral Presenter, 2017: Rachel Boccamazzo

UW Undergraduate Research Symposium, Student Oral Presenter, 2016: Vera Okolo

Emerging Researchers National Conference in STEM, Student Poster Presenter, 2016: Vera Okolo

UW Genomics Outreach for Minorities Alliances for Learning and Vision for Underrepresented Americans (GenOM ALVA) Ceremony, Student Oral Presenter, 2015: Vera Okolo

UW Summer Undergraduate Research Poster Session, Student Poster Presenter, 2015: Vera Okolo

UGA Center for Undergraduate Research Opportunities (CURO) Symposium, Student Poster Presenter, 2014: Blake Edwards

DEPARTMENTAL SERVICE

UF Biology Department, Advisory Council member, 2020 – current

UF Biology Department, ad-hoc Hiring Priorities Committee member, 2022

UF Biology Department, ad-hoc AI Committee member, 2020

COMMUNITY OUTREACH

UW Marine Microbial Ecology for High School Teachers Program; Developer and Mentor, 2016 – 2017

Coastal Studies for Girls; Mentor, 2015 – 2017

Georgia Junior Science & Humanities Symposium; Volunteer, 2010, 2013

Stroud Elementary Science Night; Volunteer, 2011

Georgia Science & Engineering Fair; Volunteer, 2010, 2011

RESEARCH CRUISES

R/V *Hogarth*; GoMicrobes, 25 – 28 February 2022, Gulf of Mexico

R/V *Kilo Moana*; Gradients-SCOPE program, 8 – 29 April 2019, North Pacific Gyres

R/V *Marcus G. Langseth*; Gradients-SCOPE program, 27 March – 13 June 2017, North Pacific Gyres

R/V *K Ka`imikai-O-Kanaloa*; Gradients-SCOPE program, 19 April – 4 May 2016, North Pacific Gyres

R/V *Thomas G. Thompson*; UNOLS Chief Scientist Training, 13 – 20 February 2016, San Diego Coast

R/V *Kilo Moana*; SCOPE program, 24 July – 6 August 2015, Station ALOHA

R/V *Thomas G. Thompson*; GeoMICS program, 16 – 22 May 2012, Line P

R/V *Kilo Moana*; C-MORE Summer Course, 12 – 22 June 2011, Station ALOHA

INVITED PRESENTATIONS

Department of Microbiology, University of Georgia, Athens, GA, 18 November 2021. *Invited seminar by Microbiology Graduate Student Association.*

Department of Bacteriology, University of Wisconsin - Madison, Madison, WI, 11 November 2021. *Invited seminar.*

College of Marine Science, University of South Florida, St. Petersburg, FL, 15 October 2021 (*remote, by zoom*). *Invited seminar.*

Molecular Life of Diatoms Conference, 12 – 14 July 2021. *Invited oral presentation.*

Whitney Laboratory for Marine Bioscience, University of Florida, St. Augustine, FL, 19 March 2021 (*remote, by zoom*). *Invited seminar.*

Dept. of Physiological Sciences, University of Florida, Gainesville, FL, 10 November 2020 (*remote, by zoom*). *Invited seminar.*

Dept. of Marine Sciences, University of Georgia, Athens, GA, 2 November 2020 (*remote, by zoom*). *Invited keynote seminar for 2020 Marine Sciences Graduate Student Association Symposium.*

Dept. of Geological Sciences, University of Florida, Gainesville, FL, 12 March 2020. *Invited seminar.*

Dept. of Biological Sciences, University of North Carolina Charlotte, Charlotte, NC, 28 February 2019. *Invited seminar.*

Dept. of Biology, University of Florida, Gainesville, FL, 24 January 2019. *Invited seminar.*

ASLO Ocean Sciences Meeting, Portland, OR; 11 – 16 February 2018. *Invited poster presentation.*

ASLO Aquatic Sciences Meeting, Honolulu, HI; 26 February – 3 March 2017. *Invited oral presentation.*

CONFERENCE PROCEEDINGS

ASLO Ocean Sciences Meeting, remote by zoom; 24 February – 4 March 2022. *Oral presentation.*

ASLO Ocean Sciences Meeting, San Diego, CA; 16 – 21 February 2020. *Session Co-Chair: Biogeochemistry of DOM and DOM-Microbe Interactions.*

US Symposium on Harmful Algae, Orange Beach, AL; 3 – 8 November 2019. *Poster presentation.*

Molecular Life of Diatoms Conference, Norwich, United Kingdom; 14 – 18 July 2019. *Oral presentation.*

Marine Microbes Gordon Research Seminar & Conference, Lucca, Italy; 30 June – 6 July 2018. *Poster presentation.*

ASLO Ocean Sciences Meeting, Portland, OR; 11 – 16 February 2018. *Oral presentation.*

Molecular Life of Diatoms Conference, Kobe, Japan; 9 – 13 July 2017. *Oral presentation.*

Marine Microbes Gordon Research Seminar, Girona, Spain; 18 – 19 June 2016. *Co-chair & Discussion Leader.*

Marine Microbes Gordon Research Conference, Girona, Spain; 19 – 24 June 2016. *Discussion Leader.*

Marine Microbes Gordon Research Conference, Girona, Spain; 19 – 24 June 2016. *Poster presentation.*

EMBO/EMBL Symposium: A New Age of Discovery for Marine Microeukaryotes, Heidelberg, Germany; 26 – 29 January 2016. *Poster presentation.*

Molecular Life of Diatoms Conference, Seattle, WA; 7 – 10 July 2015. *Oral presentation.*

Marine Microbes Gordon Research Conference, Waltham, MA; 22 – 27 June 2014. *Poster presentation.*

Marine Microbes Gordon Research Seminar, Waltham, MA; 21 – 22 June 2014. *Oral presentation.*

Symposium on Aquatic Microbial Ecology, Stresa, Italy; 8 – 13 September 2013. *Poster presentation.*

Southeastern Branch American Society for Microbiology Meeting, Athens, GA; 25 – 27 October 2012. *Oral presentation.*

Marine Microbes Gordon Research Seminar & Conference, Lucca, Italy; 23 – 29 June 2012. *Poster presentation.*

Ocean Sciences Meeting, Salt Lake City, UT; 19 – 24 February 2012. *Poster presentation.*

WORKSHOPS & PROFESSIONAL DEVELOPMENT

Simons Foundation SCOPE Program Annual Meeting, New York, NY, 2015, 2016, 2017, 2018, 2020-*online*

Simons Foundation SCOPE-Gradients Program Workshop, San Francisco, CA, 2017 and Seattle, WA, 2019

UNOLS Chief Scientist Training Workshop & Cruise, San Diego, CA, 2016

EMBO/EMBL/MMI Postdoc & Graduate Student Summit, Heidelberg, Germany, 2016

Software Carpentry: Python Workshop, University of Washington, 2015

GEOMICS Workshop, Friday Harbor, WA, 2013

American Society for Microbiology Kadner Institute, San Jose, CA, 2013

Graduate Students and Postdocs in Science (GSPS) Annual Research Day Organizer, UGA, 2012

Center for Microbial Oceanography: Research and Education Summer Course, Honolulu, HI, 2011

Planning for Emergencies in the Classroom Course, UGA, 2010

Graduate Students and Postdocs in Science (GSPS) Annual Career Symposium, UGA, 2009, 2011

Graduate Teaching Assistant Seminar, UGA, 2008

PROFESSIONAL MEMBERSHIP & SERVICE

Guest co-editor for *Frontiers in Marine Science* “The role of micronutrients in mediating microbial community interactions in the surface ocean” Research Topic, 2020 – current

Regular reviewer for National Science Foundation Division of Ocean Sciences, *Nature Communications*, *Environmental Microbiology*, *New Phytologist*, *Frontiers in Microbiology*, *Frontiers in Marine Science*, *ISME Journal*

American Society for Mass Spectrometry (ASMS) Member, 2021 – current

Florida Climate Institute Member, 2020 – current

Association for the Sciences of Limnology and Oceanography (ASLO) Member, 2017 – current

Phi Beta Kappa Member, 2007 – current

American Society for Microbiology (ASM) Member, 2006 – current

UW Postdoctoral Association Member, 2015 – 2019

UGA Graduate Students and Postdocs in Science (GSPS) Member, 2010 – 2014, Treasurer, 2011 – 2012

UGA Marine Sciences Graduate Student Association Member, 2009 – 2014

UGA Microbiology Graduate Student Association Member, 2008 – 2014, Treasurer: 2010 – 2011

AWARDS & HONORS

Simons Foundation SCOPE Scholar, 2021

Gordon Research Conference Travel Award, 2012, 2014, 2016, 2018

Molecular Life of Diatoms Conference Travel Award, 2017

UW College of the Environment Travel Award, 2017

Juergen Wiegel Graduate Award in Microbiology, 2014

UGA Graduate School Travel Award, 2012, 2014

SAME International Travel Award, 2013

UGA Office of the Vice President for Research Travel Award, 2012, 2013

UGA Graduate School Innovative and Interdisciplinary Research Grant, 2013

UGA Graduate School Assistantship, 2008 – 2010