CURRICULUM VITAE

KELLY L. ROBINSON, PHD

Hatfield Marine Science Center
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EDUCATION

Date of Degree	Degree	Major	Institution
2012	Ph.D.	Marine Sciences	University of South Alabama
2007	M.S.	Fisheries & Aquatic Sciences	University of Florida
2004	B.S.	Biology (*cum laude*)	Sweet Briar College

RESEARCH INTERESTS

Determining the effects of climate variability and long-term climate change on the production and distribution of marine zooplankton, with an emphasis on gelatinous zooplankton.

Understanding how climate forcing alters trophic interactions among and energy transfer between marine zooplankton groups, planktivorous fish, and their predators.

Evaluating the socioeconomic vulnerability of coastal fisheries to blooms of large gelatinous zooplankton.

PROFESSIONAL HISTORY

2014-Present	Postdoctoral Scholar	Hatfield Marine Science Center, Oregon State University, Newport, Oregon, USA
2013-2014	Adjunct Faculty	Department of Marine Science, The University of Southern Mississippi, Stennis Space Center, Mississippi, USA
2012-2014	Postdoctoral Associate	Department of Marine Science, The University of Southern Mississippi, Stennis Space Center, Mississippi, USA
2009-2010	Teaching Assistant	Dauphin Island Sea Lab, Dauphin Island, Alabama, USA
2007-2012	Graduate Fellow	Dauphin Island Sea Lab/Department of Marine Science, University of South Alabama, Mobile, Alabama, USA
2005-2007	Research Assistant	Department of Fisheries & Aquatic Sciences, University of Florida, Gainesville, Florida, USA

AWARDS & HONORS

2012 Eco-DAS Symposium X (formerly DIALOG) Participant

2012 Best Poster Prize, Gulf of Mexico Graduate Student Symposium

2009 Outstanding Student Presentation Award, ASLO Aquatic Sciences Meeting, Nice, France

2007 Outstanding Graduate Student of the Year, University of Florida, Department of Fisheries & Aquatic Sciences, Gainesville, Florida, USA

2004 Dr. Judith Elkins Prize for Excellence in the Biological Sciences, Sweet Briar College, Sweet Briar, Virginia, USA

RESEARCH SKILLS

Field Oceanographic: Net-based field sampling of marine plankton, water quality sample collection, CTD data collection, and small vessel (<10m) operation & towing.

Laboratory: Enumeration & identification of macro-, meso- & microzooplankton, Microzooplankton grazing experiments using the dilution method, gelatinous zooplankton growth experiments, chlorophyll-*a* extraction, dissection, compound, and inverted microscopy.

Data analysis: Management of large data sets, metadata creation with Morpho software, spatial data analysis (including geostatistical modeling) using ESRI ArcGIS, geodatabase creation and mapping (including using NASA Ocean Color imagery) of fisheries and plankton data, ecosystem modeling with Ecopath, image analysis, statistical modeling (e.g., PCA, regression analysis, GLM), multi-dimensional scaling analysis with PRIMER, experience using the '*R*' statistical software package, processing and visualization CTD data

RESEARCH EXPERIENCE

October 2014-Present. Postdoctoral Scholar. "Spatial variability of larval fish in relation to their prey and predator fields: Patterns and interactions from cm to 10s of km in a subtropical, pelagic environment." National Science Foundation. Hatfield Marine Science Center. Oregon State University

Research Identified plankton from digital images collected by the *In Situ* Ichthyoplankton Imaging System (ISIIS). Managed and prepared a large plankton imagery data set (~2 million images) for the National Data Science Bowl (NDSB), a machine learning competition by Kaggle and Booz Allen Hamilton (BAH). Supervised undergrad research assistants, volunteers, and REU students. Constructed a Microsoft Access database and an ArcGIS geodatabase for oceanographic data collected June 2014 in the Straits of Florida. Oversaw the transfer of ISIIS data and data processing algorithms from University of Miami's Center for Computer Services to OSU's Center for Genomic Research and Biocomputing. Assisted with planning the 20-day cruise "Observations of Subtropical Trophidynamics of Ichthyoplankton (OSTRICH)". Developed an "added-value" project that will quantify the gelatinous plankton predation impact and prey selectivity on fish larvae and eggs and other zooplankton in the Straits of Florida. Performed general lab manager responsibilities.

Outreach Organized and hosted NDSB site visit to Hatfield and OSU, Corvallis for eight Kaggle and BAH executives. Co-led the lab's media outreach for the NDSB in collaboration with BAH public relations firms Studio 11, Social Driver, and Fleishman Hillard. Designed public websites for OSTRICH project and the Cowen-Sponaugle "Plankton Lab" using DRUPAL.

2012-Present. Co-PI and Project Manager. "Developing ecosystem-based management metrics for forage fish using jellyfish." Lenfest Ocean Program. Dept. of Marine Science, U. Southern Mississippi

Constructed an ECOPATH model for the northern Gulf of Mexico. Managed and assimilated large and diverse data sets. Developed a spatial statistics-based protocol in ESRI ArcGIS Geostatistical Analyst and ArcMap to quantitatively estimate the degree of overlap between jellyfish and forage fish from trawl survey data. Co-supervised two graduate research assistants. Prepared publications and annual reports on project results. Managed budget in concert with program coordinator. Scheduled and coordinated P.I. meetings. Facilitated research and education partnership between USM and the Instituto del Mar del Peru, Lima, Peru.

2012-2014. Key Personnel. "Developing Modeling Application Plan to Model Impacts of MC252 on Natural Resources of the Mississippi Sound" Mississippi Department of Environmental Quality/Natural Resource Damage Assessment (NRDA). Dept. of Marine Science, USM

Contribute and verify parameterization of zooplankton data in an AQUATOX model.

2007-2012. Dissertation Research. "Climate drives local to global variations of coastal gelatinous zooplankton." Dept. of Marine Science, DISL/U. South Alabama

Analyzed the GSMFC/NMFS Southeastern Area Monitoring and Assessment Program groundfish trawl survey data set in relation to climate drivers. Sampled micro, meso, and macrozooplankton and hydrographic conditions with a CTD off of both small (<10 m) and large research vessels (≥10m). Performed statistical analyses with an emphasis on general linear models (e.g. regression, multiple-regression, Principle Component Analyses). Conducted an empirical study of the response of the ctenophore *Mnemiopsis* to increases in spring SST. Prepared maps and other spatial data products using ArcGIS. Processed Seabird CTD data using SeaSave and SBE Data Processing software. Performed a global-scale analysis of synchrony in and common climate drivers of gelatinous zooplankton populations.

2009-2012. PhD student representative, 'Global Jellyfish Working Group.' National Center for Ecological Analysis and Synthesis (NCEAS). Dept. of Marine Science, DISL/U. South Alabama

Jellyfish Database Initiative (JEDI) Development Manager & GIS expert. Collated and translated raw data sets from scientists, extracted data from literature, processed and assimilated data sets into JEDI, a global-scale data repository for gelatinous zooplankton records. Coordinated database development with NCEAS ecoinformatics specialist (J. Regetz) and project PIs. Prepared maps and other spatial data products. Supervised undergraduate intern (M. Bøgeberg). Prepared publications on project results.

2007-2012. Graduate Fellow. Dept. of Marine Science, DISL/U. South Alabama

Assisted with data management and visualization during the Deepwater Horizon oil spill. Collected hydrographic data using a Seabird CTD instrument package. Processed and prepared data visualization products in Ocean Data View.

2005-2007. Masters Research. "Interactions among phytoplankton, microzooplankton, and mesozooplankton in three nearshore systems influenced by coastal rivers." Dept. of Fisheries & Aquatic Sciences, U. Florida

Micro- and mesozooplankton sampling (Niskin bottle, ring net) hydrographic sampling off of small (<10 m) and large research vessels (≥10m). Microzooplankton dilution experiments. Mesozooplankton grazing experiments.

2005-2007. Graduate Research Assistant. Dept. of Fisheries & Aquatic Sciences, U. Florida

Field sampling and laboratory identification and enumeration of submerged aquatic vegetation sampling in freshwater spring systems in northwestern Florida. Water quality sampling parameters (chlorophyll-*a*, nutrients, and light attenuation with Li-Cor).

PUBLICATIONS

Published

1. **Robinson KL**, JJ Ruzicka, WM Graham, FJ Hernandez, MB Decker, RD Brodeur, and M Sutor. Evaluating energy flows through jellyfish and gulf menhaden *(Brevoortia patronus)* and the effects of fishing on the northern Gulf of Mexico ecosystem. (2015). *ICES Journal of Marine Science.* doi:10.1093/icesjms/fsv088
2. **Robinson KL,** Graham WM, Brodeur RD, Ruzicka JJ, Decker MB, Hernandez FJ, Acha M, Mianzan H, Quinones J, and Uye S-I. (2014) Jellyfish, forage fish and the world's major fisheries. *Oceanography*. 27(4):104-115 http://dx.doi.org/10.5670/oceanog.2014.90.
3. Baustian MM, GJA Hansen, A de Kluijver, **K Robinson**, EN Henry, LB Knoll, KC Rose, and CC Carey. (2014)] Linking the bottom to the top in aquatic ecosystems: mechanisms and stressors of benthic-pelagic coupling. p. 25-47. 38-60. In P.F. Kemp [ed.], *Eco-DAS X Symposium Proceedings*. ASLO. doi:10.4319/ecodas.2014.978-0-9845591-4-5.25
4. Stauffer B, C Patrick, **KL Robinson**, and H Peter. (2014) Scales of drivers of community dynamics: from microbes to macrofauna across the salinity gradient. p. 14-24. In P.F. Kemp [ed.], *Eco-DAS X Symposium Proceedings*. ASLO. doi: 10.4319/ecodas.2014.978-0-9845591-4-5.14
5. Graham WM, S Gelcich, **KL Robinson**, C Duarte**,** R Brodeur, L Madin, H Mianzan, KR Sutherland, S-I Uye, K Pitt, C Lucas, M Bøgeberg, L Brotz and RH Condon (2014) Linking human well-being and jellyfish: ecosystem services, impacts and societal responses*. Frontiers in Ecology and the Environment.* 12(9): 515-523 doi:10.1890/130298
6. Brodeur RD, C Barcelo, **KL Robinson**, EA Daly, and J Ruzicka (2014) Spatial overlap between forage fishes and the large medusa *Chrysaora fuscescens* in the northern California Current region. *Marine Ecology Progress Series.* 510:167-181 doi: 10.3354/meps10810
7. Lucas, CH, CJ Hollyhead, RH Condon, CM Duarte, WM Graham**, KL Robinson,** KA Pitt, M Schildhauer, and J Regetz (2014) Gelatinous biomass in the global ocean: geographic trends revealed using a new plankton database, JEDI (the Jellyfish Database Initiative). *Global Ecology and Biogeography*. doi:10.1111/geb12169
8. **Robinson KL** and WM Graham (2014) Warming of subtropical coastal waters accelerates *Mnemiopsis* growth and alters timing of spring ctenophore blooms. *Marine Ecology Progress Series.* 502:105-115. doi:10.3354/meps10739

9. Mianzan, H., J Quiñones, S Palma, A Schiariti, M Acha, **KL Robinson** and WM Graham (2014) *Chrysaora plocamia*: A poorly understood jellyfish from South American waters. In: *Jellyfish Blooms,* KA Pitt and CH Lucas [Eds]. Springer-Link. p.219-236. http://dx.doi.org/10.1007/978-94-007-7015-7_10

10. Pitt, KA, CM Duarte, CH Lucas, KR Sutherland, RH Condon, H Mianzan, JE Purcell, **KL Robinson** and S-I Uye (2013) Jellyfish Body Plans Provide Allometric Advantages beyond Low Carbon Content. *PLoS ONE* 8(8): e72683. doi: 10.1371/journal.pone.0072683

11. **Robinson KL** and WM Graham (2013) Long-term change in the abundances of northern Gulf of Mexico scyphomedusae *Aurelia* spp. and *Chrysaora* sp. with links to climate variability. *Limnology & Oceanography* 58(1):235-253. doi:10.4319/lo.2013.58.1.0235

12. RH Condon, CM Duarte, KA Pitt, **KL Robinson**, CH Lucas, KR Sutherland, HW Mianzan, M Bøgeberg, JE Purcell, MB Decker, S-I Uye, L Brotz, LP Madin, RD Brodeur, SHD Haddock, A Malej, G Parry, E Eriksen, J Quiñones, M Acha, M Harvey, and WM Graham (2013) Recurrent jellyfish blooms are a consequence of global oscillations. *Proceedings of the National Academy of Sciences U.S.A.* 110(3):1000-1005. doi:10.1073/pnas.1210920110

13. **Robinson KL** (2012) Climate drives local to global variations of coastal gelatinous zooplankton. Dissertation. University of South Alabama, Mobile, Alabama USA. 236 pgs.

14. Duarte, CM, K Pitt, CH Lucas, JE Purcell, S-I, Uye, **KL Robinson**, L Brotz, MB Decker, KR Sutherland, A Malej, L Madin, H Mianzan, JM Gili, V Fuentes, D Atienza, F Pagés, D Breitburg, J Malek, WM Graham and RH Condon (2012) Is global ocean sprawl a cause of jellyfish blooms. *Frontiers in Ecology and the Environment.* doi:10.1890/110246

15. Condon, RH, WM Graham, CM Duarte, KA Pitt, CH Lucas, SHD Haddock, KR Sutherland, **KL Robinson,** M Dawson, MB Decker, CE Mills, JE Purcell, A Malej, H Mianzan, S-I, Uye and S Gelcich (2012) Questioning the Rise of Jellies in the World's Oceans. *Bioscience* 62(2):160-169. doi:10.1525/bio.2012.62.2.9

16. Brotz L, M Lebrato, **KL Robinson**, M Sexton, A Sweetman, K Pitt and R Condon (2011) Implications of increased carbon supply for the global expansion of jellyfish blooms. *ASLO Bulletin* 20(2):38-39

17. Fodrie, FJ, KW Heck, SP Powers, WM Graham and **KL Robinson** (2009) Thirty-year change in northern Gulf of Mexico seagrass fish communities includes addition of tropical species. *Global Change Biology*. doi: 10.1111/j.1365-2486.2009.01889.x

In revision

18. Quiñones J, EM Acha, S Purca, **K Robinson** and HW Mianzan. Climate driven population size fluctuations of jellyfish off Peru. *Marine Biology*

In preparation

Robinson KL, WM Graham, CM Duarte, RH Condon, J Carstensen, C Santana , RD Brodeur, CM Duarte, J Quiñones, MB Decker, H Mianzan, M Acha, KA Pitt, and JEDI Development Team. Jelly populations worldwide vary with a set of climate signals and oscillate synchronously. *Science*

Robinson KL and WM Graham. The role of physical thresholds and 'source-sink' metapopulation dynamics in the development of spring blooms of *Mnemiopsis leidyi* and *Beroe ovata* in the northern Gulf of Mexico. *Estuarine, Coastal, and Shelf Science*

Robinson KL, Frazer TK, Jacoby CA and Youngbluth MJ. Interactions among phytoplankton, microzooplankton, and mesozooplankton in three nearshore systems influenced by coastal rivers. *Continental Shelf Research*

PRESENTATIONS

Academic Seminars

1. **Robinson KL** (2015) Coastal gelatinous zooplankton: risks, drivers, and food web energy transfer. *Skidaway Institute of Oceanography, University of Georgia*, Savannah, GA, USA. 31 March 2015.
2. **Robinson KL** (2015) Gelatinous zooplankton: risks, services, and food web energy transfer. *Hatfield Marine Science Center, Oregon State University*, Newport, OR, USA. 5 February 2015.
3. **Robinson KL** (2014) Gelatinous zooplankton: risks, drivers, and energy transfer. *Oregon Institute of Marine Biology, University of Oregon*, Charleston, OR, USA. 14 November 2014.
4. **Robinson KL** (2014) Gelatinous zooplankton: risks, drivers, and energy transfer. *Ocean Biogeochemistry Ecosystems Group, National Oceanography Centre*, Southampton, UK. 11 June 2014.
5. **Robinson KL** (2012) Gelatinous zooplankton in the Gulf of Mexico and beyond: effects of climate variability and future climate change. *Dept. of Marine Science Seminar Series, The University of Southern Mississippi.* Stennis Space Center, Mississippi, USA. 16 August 2012.

Conference Presentations (underline indicates presenter)

6. **Robinson Kelly L.**, James J. Ruzicka, Richard D. Brodeur, Frank J. Hernandez, Mary Beth Decker, W. Monty Graham (2014) Role of large coastal jellyfish and forage fish as energy transfer pathways in the northern Gulf of Mexico. Oral Presentation. *ICES 2014 Annual Meeting*, A Coruña, Spain
7. **Robinson Kelly L**, James J. Ruzicka, Mary Beth Decker, Richard D. Brodeur, Frank J. Hernandez, Javier Quiñones, Marcelo Acha, Shin-ichi Uye, Hermes W. Mianzan, and W. Monty Graham (2014) Jellyfish, forage fish and the world's major fisheries. Oral Presentation. *ICES 2014 Annual Meeting*, A Coruña, Spain
8. Cathy H. Lucas, Robert H. Condon, Carlos M. Duarte, William M. Graham, **Kelly L. Robinson**, Kylie A. Pitt, Mark Schildhauer, and Jim Regetz (2014) JeDI (Jellyfish Database Initiative): a new open-access gelatinous plankton database. Poster Presentation. *ICES 2014 Annual Meeting*, A Coruña, Spain
9. **Robinson KL**, JJ Ruzicka, MB Decker, F Hernandez, R Brodeur and WM Graham (2013) Role of large coastal jellyfish and forage fish as energy transfer pathways in the northern Gulf of Mexico. Oral Presentation. *4th International Jellyfish Blooms Symposium*, Hiroshima, Japan

10. **Robinson KL** and WM Graham (2013) Warming of subtropical coastal waters accelerates *Mnemiopsis* growth and alters timing of spring ctenophore blooms. Poster Presentation. *4th International Jellyfish Blooms Symposium*, Hiroshima, Japan

11. Graham WM, **KL Robinson**, R Brodeur, F Hernandez, MB Decker, H Mianzan, M Acha, J Quinones and S-I Uye (2013) Developing ecosystem-based management metrics for forage fish using jellyfish. Oral Presentation. *4th International Jellyfish Blooms Symposium*, Hiroshima, Japan

12. Brodeur RD, C Barcelo, **KL Robinson,** EA Daly and JJ Ruzicka (2013) Seasonal and interannual variability in the spatial overlap between forage fishes and large medusa in the northern California Current region. Oral Presentation. *4th International Jellyfish Blooms Symposium*, Hiroshima, Japan

13. Condon RH, CM Duarte, KA Pitt, CH Lucas, JM Arthur, **KL Robinson**, WM Graham, NCEAS Global Jellyfish Group (2013) NCEAS Global Jellyfish Group: Assessing current paradigm, and natural and anthropogenic drivers of long-term jellyfish populations from the 19th century to present. *Invited Oral Presentation. *4th International Jellyfish Blooms Symposium*, Hiroshima, Japan

14. **Robinson KL** and WM Graham (2012) Long-term change in the abundances of *Chrysaora* sp. and *Aurelia* spp. with links to climate variability. Oral Presentation. *PICES Annual Meeting*. Hiroshima, Japan.

15. **Robinson KL,** WM Graham, CM Duarte, RH Condon, RD Brodeur, MB Decker, J Quiñones, H Mianzan, M Acha, CH Lucas, KA Pitt, JE Purcell, the JEDI Development Team (2011) Global patterns in jelly populations: Is there evidence of synchrony and common dependency on large-scale climate signals? Poster Presentation. *ASLO Ocean Sciences Meeting*. Salt Lake City, Utah, USA

16. **Robinson KL,** LM Chiaverano, and WM Graham (2011) Linking temperature, polyp morphology, and medusa numbers: a mechanism regulating the magnitude of jellyfish blooms in the northern Gulf of Mexico. *ASLO Aquatic Sciences Meeting*. San Juan, Puerto Rico, USA

17. WM Graham, FJ Hernandez, Jr, AF Millett, L Carassou, G Zapfe, **KL Robinson**, J Lyczkowski-Shultz (2011) Using Zooplankton Community Distribution to Identify Large Marine Ecosystem Sub-Units within the Northern Gulf of Mexico. Poster Presentation. *Northern Gulf Institute Symposium*.

18. Condon RH, KA Pitt, WM Graham, CM Duarte, C Lucas, **K Robinson**, PA del Giorgio, CA Carlson, M Lebrato, M Conte and RS Lampitt (2010) Exploring the Paradigm of a Global Expansion in Jellyfish: Implications for Biogeochemical Cycles & Food Webs in a Changing Ocean. Oral Presentation. *IMBER IMBIZO* II: Integrating biogeochemistry and ecosystems in a changing ocean - Regional comparisons*. Crete, Greece.

19. **Robinson KL** and WM Graham (2010) Variability in northern Gulf of Mexico *Mnemopsis leidyi* populations in relation to seasonal refugia and physical thresholds. Poster Presentation. *3rd International Jellyfish Blooms Symposium*. Mar del Plata, Argentina

20. Graham WM, FJ Hernandez Jr., SP Powers, RC Collini, and **KL Robinson** (2009) Contribution of jellyfish predation to ichthyoplankton mortality: is there enough to matter to the stock? Oral Presentation. *ASLO Aquatic Sciences Meeting*. Nice, France

21. **Robinson KL** and WM Graham (2009) Long-term variability in populations of the scyphomedusae Aurelia sp. and Chrysaora quinquecirrha in the northern Gulf of Mexico, with links to climate change. Oral Presentation. *ASLO Aquatic Sciences Meeting*. Nice, France

22. Millett A, WM Graham, and **KL Robinson** (2009) Can jellyfish blooms alter mesozooplankton community structure? Poster Presentation. *ASLO Aquatic Sciences Meeting*. Nice, France

23. Graham WM, J Fodrie, and **K Robinson** (2008) From Finfish to Jellyfish: Incorporating Gelatinous Plankton into Ecosystem-Based Fisheries Management Practices. Oral Presentation. *Workshop on Mictrophic Fishes.* Honolulu, Hawaii, USA

24. **Robinson KL**, TK Frazer, CA Jacoby, and MJ Youngbluth (2007) Interactions between phytoplankton, micro- and mesozooplankton in river-dominated coastal systems along the Big Bend, Florida, USA. Oral Presentation. *ASLO Aquatic Sciences Meeting*. Santa Fe, New Mexico, USA

GRANTS & SCHOLARSHIPS

1. "Ecosystem modeling support for improved management of Mississippi's diverse coastal resources." In: *A comprehensive and integrated observation, monitoring, mapping and modeling plan for Mississippi* (2015-2020) A University of Southern Mississippi Marine Science Research Program Package. Co-PI. $1,201,512 USD. Mississippi Department of Environmental Quality. *In Review*

2. "A comprehensive survey of Mississippi Bight zooplankton and ichthyoplankton." In: *A comprehensive and integrated observation, monitoring, mapping and modeling plan for Mississippi* (2015-2020) A University of Southern Mississippi Marine Science Research Program Package. Co-PI. $9,431,892 USD. *In Review*. Mississippi Department of Environmental Quality

3. "Assessing fine-scale spatial variability in larval fish in relation to gelatinous predators." (2014-2015) Lead PI. $39,734. L'Oréal USA Women in Science Fellowship. *Declined.*

4. "Developing statistical and ecological food web models for ecosystem-based management of marine resources and to assess coastal military installation vulnerability to jellyfish blooms in the Sea of Japan" (2014) Strategic Environmental Research Development Program, U.S. Corps of Engineers, Department of Defense. Lead PI. $1,284,443. *Declined*.

5. **"**Developing ecosystem-based management metrics for forage fish using jellyfish." Lenfest Ocean Program, Pew Charitable Trusts (2012-2015) Co-PI. 439,938. *Funded.*

6. "Trophic and socioeconomic impacts of jellyfish on Bering Sea and northern Californian Current fisheries" (2011) NSF Science, Engineering & Education for Sustainability Postdoctoral Fellowship. Principal Investigator. Lead PI. $320,965. *Declined.*

7. "Application of FlowCam technology to quantify seasonal changes in the abundance and the assemblage composition of microzooplankton and mesozooplankton assemblages in

Mississippi and Alabama coastal waters in relation to seasonal *Mnemiopsis* blooms" (2011) Flow CAM Student Equipment Grant. Fluid Imaging Technologies, Inc. *Declined*.

8. "The effects of climate variability on the formation of jellyfish blooms in the northern Gulf of Mexico: consequences for marine food webs in a heavily fished ecosystem." (2011) NOAA Dr. Nancy Foster Graduate Scholarship Program. $51,417. *Declined.*
9. Graduate Scholarship. International Women's Fishing Association (2009-2012) $3,500. *Funded*.
10. Student Travel Grant, Department of Marine Science, University of South Alabama (2007-2012) $3,000. *Funded.*
11. Student Travel Grant, Dauphin Island Sea Lab $750 (2007-2012). *Funded*.
12. "Impacts of climate change on the formation of jellyfish and ctenophore blooms: magnitude and consequences for Gulf of Mexico ecosystems" Graduate Fellowship (2010) EPA Science To Achieve Results (STAR) Program. *Declined.*
13. Student Travel Grant. Association for the Sciences of Limnology & Oceanography (2009) $250. *Funded.*
14. "Effects of climate variability and seasonal refugia on ctenophore population dynamics" Mississippi-Alabama Sea Grant Program. $198,603. *Declined.*
15. Student Travel Grant. University of Florida, Institute of Food & Agriculture Sciences (2006) $500. *Funded*.

ADVISORS & COLLABORATORS

Postdoctoral Advisors

Robert Cowen and Su Sponaugle, Oregon State University (2014-Present); William M. Graham, The University of Southern Mississippi (2012-2014)

Graduate Advisors

Ph.D.	William M. Graham (major)	The University of Southern Mississippi
	Kyeong Park (co-chair)	DISL/University of South Alabama
	Ronald P. Kiene	DISL/University of South Alabama
	William Patterson	DISL/University of South Alabama
	Deborah K. Steinberg	Virginia Institute of Marine Science
M.Sc.	Thomas K. Frazer (major)	University of Florida
	Charles A. Jacoby (co-chair)	St. Johns River Water Management District
	Marsh J. Youngbluth	Harbor Branch Oceanographic Institute

Collaborators and co-authors (last five years)

Richard Brodeur (NOAA NMFS, USA)	Carlos M. Duarte (UWA, Australia)
Mary B. Decker (Yale, USA)	Shin-ichi Uye (HU, Japan)

Jim Ruzicka (OSU, USA)
Sara Purca (IMARPE, Perú)
Elizabeth Daly (NMFS NWFSC, USA)
Lucas Brotz (UBC, Canada)
Robert Condon (DISL, USA)
Jennifer Purcell (WWU, USA)
Kelly Rakow Sutherland (OSU, USA)
Steven Haddock (MBARI,USA)
Alenka Malej (NIB, Slovenia)
Hermes Mianzan (INIDEP, Argentina)
Caren Barcelo (OSU, USA)
Malinda Sutor (LSU, USA)
Marcelo Acha (INIDEP, Argentina)
Javier Quiñones (IMARPE, Perú)
Kylie A. Pitt (GU, Australia)
Cathy H. Lucas (NOC/US, UK)
Stefan Gelcich (CU, Chile)
Caren Barcelo, (OSU, USA)

TEACHING ACTIVITIES

Instructor of Record: Undergraduate Courses

Semester	Class Title, Course Number, Credit Hours	Enrollment
2014 Spring	*Marine GIS* (MAR 414), 3-hrs., Dept. of Marine Science, USM	4
2013 Fall	*Senior Practicum* (MAR 497), 2-hrs., Dept. of Marine Science, USM	2
2013 Fall	*Seminar* (MAR 489), 1-hr., Dept. of Marine Science, USM	2

Undergraduate Courses: Assisted With

Semester	Role, Class Title, Credit Hours, Institution
2015 Spring	Guest Lecturer. "Marine Plankton." *Marine Biology*. Dr. Su Sponaugle, OSU
2012 Spring	Guest Field Exercise Instructor, *Estuaries,* 3-hrs, Dept. Marine Science, USM
2011 Summer	Guest Lecturer "Processing & analyzing hydrographic data using Seabird and Ocean Data View Software" *Introduction to Oceanography,* 4-hrs., Dr. Monty Graham, DISL
2010 Summer	Teaching Assistant & Lab Instructor, *Introduction to Oceanography*, 4-hrs., Dr. Monty Graham, DISL
2009 Summer	Teaching Assistant & Lab Instructor, *Introduction to Oceanography*, 4-hrs., Dr. Monty Graham, DISL
2009 Summer	Guest Lecturer. "Ocean systems in a changing climate." *MAST Teacher Workshop Series,* DISL
2008 Summer	Teaching Assistant. *Marine Biology*, 4-hrs., Dr. Jack O'Brien, DISL
2008 Summer	Guest Lecturer. "Marine Zooplankton." *Introduction to Oceanography*. Dr. Monty Graham, DISL
2008 Summer	Guest Lecturer. "Marine Zooplankton." *Marine Biology*. Dr. Behzad Mortazavi, DISL

Graduate Students Guided

Name	From-To	University, Program
Sangay Dorji (with M.B. Decker)	2013-2015	Yale University, Environ. Management, RA

Katrina Aleska (with W.M. Graham)	2013-2014	USM Dept. of Marine Science, Graduate RA
Elizabeth Ewings (with W.M. Graham)	2013-2014	USM Dept. of Marine Science, Graduate RA
Naomi Yoder (with W.M. Graham)	2013-2014	USM Dept. of Marine Science, Graduate RA

Undergraduate Students Supervised

Name, University	From-To	Institution
Cameron Ogden-Fung, Bowdoin College	2015	OSU Hatfield Marine Science Center, REU
Matthew Rambo, Brigham Young University	2015	OSU Hatfield Marine Science Center, REU
Alexander Hurley (with W.M. Graham), Centre College	2013-2014	University of Southern Mississippi, Intern

Interns & Volunteers Supervised

Name	From-To	Institution
Miles McCall (with Chris Sullivan)	2015-Present	OSU Center for Genome Research & Biocomputing
Max Butensky	2015	OSU Hatfield Marine Science Center
Clare Hansen	2014-Present	OSU Hatfield Marine Science Center
Megahan Atkinson	2014-Present	OSU Hatfield Marine Science Center
Mackenzie Mason	2014-Present	OSU Hatfield Marine Science Center
Molly Bøgeberg (with W.M. Graham)	2010-2011	Dauphin Island Sea Lab

SERVICE ACTIVITIES

Professional Activities

2015	Co-Host, Kaggle and Booz Allen Hamilton "National Data Science Bowl" Executive Visit. Hatfield Marine Science Center, Newport, Oregon, USA
2014	Host, Lenfest Ocean Program's Jellyfish-Forage Fish Principal Investigators Meeting: Jellyfish, Forage Fish and the World's Fisheries, A Coruña, Spain
2012	Attended the International Council For the Exploration of the SEA (ICES) Annual Meeting, A Coruña, Spain
2014	Co-host, Lenfest Ocean Program's Jellyfish-Forage Fish P.I. Meeting: Jellyfish, Forage Fish and the World's Fisheries, Stennis Space Center, Mississsippi, USA
2013	Co-host, Lenfest Ocean Program's Jellyfish-Forage Fish Principal Investigators Meeting: Gulf of Mexico Ecosystem Model, New Orleans, Louisiana, USA
2009-2012	PhD Student Representative, National Center for Ecological Analysis & Synthesis

	(NCEAS) Global Jellyfish Blooms Working Group, Santa Barbara, California, USA
2012	Ecological Dissertations in the Aquatic Science (Eco-DAS) X Sympoisum, Honolulu, Hawaii, USA
2012	Attended the Fourth International Jellyfish Blooms Sympoisum, Hiroshima, Japan
2012	Attended the North Pacific Marine Science Organization (PICES) Annual Meeting, Hiroshima, Japan
2012	Attended the ASLO Ocean Sciences Meting, Salt Lake City, Utah, USA
2011	"The global role of jellyfish and their increase in the ocean" Workshop, Mallorca, Spain
2011	Emerging Issues Seminar "Implications of Increased Carbon Supply & Artificial Habitat for the Global Expansion of Jellyfish Blooms," ASLO Aquatic Sciences Meeting, San Juan, Puerto Rico, USA
2011	Attended the ASLO Aquatic Sciences Meeting, San Juan, Puerto Rico, USA
2010	Attended the Third International Jellyfish Blooms Symposium, Mar del Plata, Argentina
2010	Co-chair, NCEAS *Global Jellyfish Blooms Workshop*, Mar del Plata, Argentina
2008	Attended the ASLO Ocean Sciences Meeting, Orlando, Florida, USA
2007	Attended the ASLO Aquatic Sciences Meeting, Santa Fe, New Mexico, USA
2005	Attended the Southeastern Ecology and Evolution Conference, Athens, Georgia, USA

Service to the University and Community

2014	Question & Answer Session. Ms. Jenny Jones' 4th Grade Class. Glenburn Elementary School, Glenburn, Maine, USA
2012	Student Volunteer, ASLO *Ocean Sciences Meeting*, Salt Lake City, Utah, USA
2012	Hosted Seminar Speaker, Dr. Richard D. Brodeur (NOAA NMFS), Dauphin Island Sea Lab (DISL), Dauphin Island, Alabama, USA
2011	Public Lecture "Jellyfish and climate." DISL '*Boardwalk Talk' Series.* Dauphin Island, Alabama, USA
2010-2011	Editor 'The Tentacle Times,' *NCEAS 'Global Jellies' Working Group* Informational Newsletter
2009-2010	Faculty Representative, Marine Science Graduate Student Organization, DISL
2008	Student Volunteer, ASLO *Ocean Sciences Meeting*, Orlando, FL, USA
2008-2009	Chair of Organizing Committee, *2009 Gulf of Mexico Graduate Student Symposium*, Marine Science Graduate Student Organization, DISL
2007-2008	Treasurer, Marine Science Graduate Student Organization, DISL

2006-2007 Executive Secretary, Fisheries & Aquatic Sciences (FAS) Graduate Student Organization, University of Florida

2005-2007 Travel Grants Committee Member & Chair, FAS Graduate Student Organization, University of Florida

Review Activities

U.S. National Science Foundation: Biological Oceanography Program
Fisheries Research
Marine Ecology Progress Series
Bulletin of Marine Science
Journal of Sea Research
Marine and Freshwater Research
Biological Reviews
Deep Sea Research Part 1
Journal of Plankton Research

Professional Organization Memberships

2015	American Fisheries Society (AFS)
2014-Present	American Geophysical Union (AGU)
2008-Present	The Oceanography Society (TOS)
2006-Present	Association for the Sciences of Limnology & Oceanography (ASLO)
2012	Gulf Coast Estuarine Research Society (GERS)
2012	Coastal and Estuarine Research Foundation (CERF)

OCEANOGRAPHIC RESEARCH CRUISE EXPERIENCE

Day cruises ≈ 150 days at sea (2005-2012)

Approximately 810 hours of experience operating small vessels (<23ft) and leading sampling trips in a wide variety of weather and sea conditions. Experience includes operating in estuarine, coastal and offshore waters (>20 nm). Sampling trip objectives typically included deploying a CTD instrument package, collecting zooplankton with ring nets and capturing large gelatinous plankton.

NOAA NMFS SEAMAP Fall Shrimp/Groundfish Survey – 14 days at sea (October 2011)

Duties included: processing trawl catch (identifying, counting and measuring all species of invertebrates and vertebrates), assisting with CTD casts and conducting neuston and bongo net tows. I also collected tissue samples from species-of-interest (e.g. Brown Shrimp) for genetic analysis. *Chief Scientist*: Brittany Palm (NOAA NMFS Pascagoula Laboratory, MS)

Lagrangian Transport & Transformation Experiment (LaTTE) - 7 days at sea (May 2006)

Assisted Dr. Frazer with cruise preparation and with on-ship zooplankton grazing experiments using microzooplankton and mesozooplankton collected from the Hudson River plume (Mid-Atlantic Bight). Duties included organizing and conducting plankton net tows in coordination with ship's

crew and processing water samples for later analyses. *Chief Scientist*: Dr. Oscar Schofield (Rutgers University, New Brunswick, NJ

Maine Event VI - 7 days at sea (October 2005)

Assisted Dr. Youngbluth and Dr. Jacoby with respiration experiments on zooplankton collected from the Gulf of Maine, using oxygen micro-optode technology. Animal of focus was the mesopelagic siphonophore *Nanomia cara*. Member of the scientific party abroad a manned submersible dive (Johnson Sea-Link) with the objective of observing the collection of animals for experiments and photography. *Chief Scientist*: Dr. Marsh J. Youngbluth (Harbor Branch Oceanographic Institute, Ft. Pierce, FL)

POPULAR MEDIA COMMUNICATIONS

2015 Sherman, L. "Adrift in a sea of data." *Terra*. 3 April 2015. http://oregonstate.edu/terra/2015/04/adrift-in-a-sea-of-data/

2015 Sherman, L. "Oceanic oscillation: observing the secret lives of jellyfish." *Terra*. 13 April 2015. http://oregonstate.edu/terra/2015/04/oceanic-oscillation/

2015 Tumbleson, A. "Data scientists vie for big cash prizes." *Newport News Times*. 21 January 2015

2015 Interviewee. "Hotline" radio show on KNPT AM 1310. Kiera Morgan. Subject matter: National Data Science Bowl. Aired 12 January 2015.

2013 Interviewee. "Jellyfish Invasion?" on *The Animal House*. WAMU 88.5 American University Radio. Produced by Steven Williams. Subject matter: Global invasion of jellyfish. Aired 12 October 2013.

2013 Interviewee. "Trek of the Titans." *The Nature of Things*. Documentary Film. Directed by Teresa MacInnes and Kent MacInnes. Produced for the Canadian Broadcasting Corporation. Interviewed 18-22 August 2013. Subject matter: Jellyfish and leatherback sea turtles

2012 Schrope, M. (2012) Attack of the blobs. *Nature*. 482: 20-21, doi:10.1038/482020a

2011 Research Assistant to WM Graham, "Rise of the Jellyfish," Storyhouse Productions. Produced for the *Discovery Channel*. Aired 2 January 2011

2011 Raines, B. "Moon jellyfish clog Alabama and Mississippi coastal waters." *Mobile Press Registrar*. 18 September 2011

2010 Raines, B. "Cold spring could mean a 'jelly year' for jellyfish on the Gulf Coast." *Mobile Press Registrar*. 25 April 2010