

AVERY BYRD PAXTON

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Department of Biology
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EDUCATION

- 2012 – 2017 PhD – Biology, University of North Carolina at Chapel Hill, NC (expected)
Topic: Marine ecology and conservation of temperate reefs.
Advisor: Dr. Charles ‘Pete’ Peterson.
- 2011 Benthic Ecology of Salish Sea Research Apprenticeship, University of Washington, Friday Harbor Laboratories, Friday Harbor, WA
Advisors: Dr. Kenneth Sebens and Dr. H. Gary Greene
- 2007 – 2011 BS – Environmental Science, University of Virginia, Charlottesville, VA
Specialization: Environmental and Biological Conservation
Advisors: Dr. Carleton Ray and Dr. Howard Epstein
- 2010 Sea Semester, Oceans and Climate Study Abroad Program, Woods Hole, MA and Central Pacific Ocean
- 2003 – 2007 High School Diploma, Western Albemarle High School, Crozet, VA

PROFESSIONAL APPOINTMENTS

- 2015 – pres. NSF Graduate Research Fellow, University of North Carolina at Chapel Hill, Institute of Marine Sciences, Morehead City, NC
- 2014 – 2015 Graduate Research Assistant, University of North Carolina at Chapel Hill, Institute of Marine Sciences, Morehead City, NC
- 2013 – 2014 NSF Graduate Research Fellow, University of North Carolina at Chapel Hill, Institute of Marine Sciences, Morehead City, NC
- 2012 – 2013 Teaching Assistant, University of North Carolina at Chapel Hill, Chapel Hill, NC
- 2012 – pres. Research Associate, Albanian Center for Marine Research, Saranda, Albania.
- 2012 Subtidal Ecology Research Technician, University of Washington, Friday Harbor

FELLOWSHIPS AND AWARDS

- 2015 – 2016 P.E.O. Scholar Award (\$15,000), International merit-based scholarship for women pursuing a doctoral degree in any field.
- 2015 – 2016 UNC Global Partnership Award (\$1,000), Support for travel to Albania to conduct research in marine protected area near Sazani Island with colleagues from the Albanian Center for Marine Research.
- 2012 - 2017 National Science Foundation Graduate Research Fellowship (\$132,000), Three years stipend plus tuition awarded for academic merit and hard substrate research proposal, to be used over a period of five years.
- 2011 Distinguished Major with High Distinction, High distinction for undergraduate distinguished majors thesis.
- 2009 – 2011 NOAA Hollings Scholar (\$20,000), Scholarship for academic merit and fellowship for shipwreck research.
- 2007 – 2011 Echols Scholar, University of Virginia Honors Program, 1 of 200 selected from class of 3,000 incoming students.
- 2007 Great Value Merit Scholarship (\$1,000), Scholarship for academic merit
- 2006 National Federation of Independent Business – Virginia Leadership Council Young Entrepreneur Award (\$1,000), Scholarship for founding and operating baking business during high school
- 2004 American Natural History Museum Young Naturalist Award Semifinalist, Recognition for research on turkey vulture search and rescue
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RESEARCH GRANTS

- 2016 – 2017 National Geographic Society / Waitt Grants Program (\$10,321), ‘Integrating the history and ecology of shipwrecks with on-demand remote sensing: digital conservation of the Ghost Fleet of Malloes Bay’, co-PI with D.W. Johnston, C.R. Newton.
- 2015 – 2017 North Carolina Coastal Resource Fishing License Grant (\$223,190), ‘Improving the fish production of artificial reefs by testing the most widely-recognized and pressing questions about reef design and function,’ PhD candidate and lead scientist with C.H. Peterson (PI).

- 2015 – 2016 Bureau of Ocean Energy Management Contract (\$100,000), ‘Documenting the marine soundscape at selected reefs in Onslow and Long Bays, NC,’ PhD candidate with C.M. Voss, C.H. Peterson, J.C. Taylor.
- 2015 Kenan-Biddle Partnership Fund (\$5,000), ‘Connections that last: ensuring a sustainable future for the Scientific Research and Education Network (SciREN),’ Co-PI with A.A. Larkin, H.L. Heenehan, J.T. Ridge, and E.J. Theuerkauf.
- 2014 Henry Van Peters Wilson Memorial Fund for Marine Biology (\$500), ‘Fish use of artificial reefs and surrounding seagrass meadows in Ksamil Bay, Albania,’ PI.
- 2013 – 2015 North Carolina Coastal Resource Fishing License Grant (\$207,195), ‘Fish utilization of low- and high- relief natural and complex artificial hard bottom habitat,’ PhD student and lead scientist with C.H. Peterson (PI).
- 2013 – 2015 Bureau of Ocean Energy Management Contract (\$733,618), ‘Studies towards fulfillment of the Outer Continental Shelf Lands Act offshore of North Carolina: Stakeholder uses and essential fish habitat in wind energy call areas,’ PhD student and lead scientist for seasonal diving surveys with C.H. Peterson, C.M. Voss, J.C. Taylor, C. Freeman, and S. Fegley (Co-PIs).
- 2013 – 2014 Waitt Foundation Rapid Ocean Conservation Grant (\$9,640), ‘Protecting Ksamil Bay: Fostering Marine Conservation and Sustainable Tourism on the ‘Albanian Riviera,’ Co-PI with D.M. Smith.
- 2010 University of Virginia Harrison Research Grant (\$3,000), ‘Biological Aspects of North Carolina Shipwrecks,’ PI.
- 2009 University of Virginia College of Arts and Sciences - Small Research Grant (\$500), ‘Biology of Shipwrecks of North Carolina,’ PI.

PUBLICATIONS

Paxton, A.B. and D.M. Smith. *In prep.* Underwater optical illusion doubled demersal fish use of artificial reef.

Paxton, A.B., A.M. Adler, E.A. Pickering, J.C. Taylor, and C.H. Peterson. *In prep.* Artificial and natural reefs are not created equal: subtropical and tropical fish prefer deep artificial reefs, whereas temperate fish prefer natural reefs,

Paxton, A.B., E.A. Pickering, A.M. Adler, J.C. Taylor, and C.H. Peterson. *In review.* Flat and complex temperate reefs provide similar support for fish: evidence for a unimodal species-habitat relationship. Ecological Applications.

Paxton, A.B., J.C. Taylor, D.P. Nowacek, J. Dale, E. Cole, C.M. Voss, and C.H. Peterson. 2017. Seismic survey noise disrupted fish use of a temperate reef. *Marine Policy* 78: 68-73. DOI: [10.1016/j.marpol.2016.12.017](https://doi.org/10.1016/j.marpol.2016.12.017).

Paxton, A.B. 2011. Establishing a biological baseline for shipwrecks in North Carolina coastal waters. Undergraduate Distinguished Majors Thesis, Department of Environmental Science, University of Virginia.

TECHNICAL REPORTS

Paxton, A.B., J.C. Taylor, D.P. Nowacek, C.M. Voss, and C.H. Peterson. 2016. Documenting the Marine Soundscape of Selected Reefs within Onslow Bay, North Carolina. U.S. Department of the Interior, Bureau of Ocean Energy Management, Office of Renewable Energy Programs, Herndon, VA. OCS Study BOEM 2016-XXX. 21 p.

Paxton, A.B., J.C. Taylor, D.P. Nowacek, J. Dale, E. Cole, C.M. Voss, B. Degan, E.F. Ebert, and C.H. Peterson. 2015. *In situ* observations from a marine seismic survey in Onslow Bay, North Carolina. U.S. Department of the Interior, Bureau of Ocean Energy Management, Office of Renewable Energy Programs, Herndon, VA. OCS Study BOEM 2015-XXX. 58 p.

Taylor, J.C., **A.B. Paxton**, C.M. Voss, B. Sumners, C.A. Buckel, J. Vander Pluym, E.F. Ebert, T.S. Viehman, S.R. Fegley, E.A. Pickering, A.M. Adler, C. Freeman, C.H. Peterson. 2016. Benthic Habitat Mapping and Assessment in the Wilmington-East Wind Energy Call Area. U.S. Department of the Interior, Bureau of Ocean Energy Management (BOEM), Atlantic OCS Region, Sterling, VA. OCS Study BOEM 2016-003 and NOAA Technical Memorandum 196. 208 p.

A.B. Paxton, E.A. Pickering, A.M. Adler, and C.H. Peterson. 2015. Trends in fish utilization of low- vs. high-relief natural and of artificial hardbottom as a function of sedimentation dynamics and benthic community composition – relevance to wind power development. The University of North Carolina at Chapel Hill, Institute of Marine Sciences, Morehead City, NC. Coastal Recreational Fishing License Grant #5115, Final Report, 88 p.

ORAL PRESENTATIONS

Paxton, A.B., E.A. Pickering, A.M. Adler, J.C. Taylor, and C.H. Peterson. Existing natural and artificial temperate reefs provide valuable insights into future offshore renewable energy development. June 2016. *International Temperate Reef Symposium*, Pisa, Italy.

Paxton, A.B. April 2016. Offshore energy development and reef fish. *East Carolina University, Biology Department, Research in Progress Seminar Series*, Greenville, NC, USA.

Paxton, A.B. March 2016. Offshore energy development – what about our reef fish? *Brown Bag Lunch Seminar*, Morehead City, NC, USA.

Paxton, A.B., J.C. Taylor, D.P. Nowacek, E.B. Ebert, C.M. Voss, and C.H. Peterson. March 2016. Opti-sonic instrument arrays illuminate how underwater sound influences reef fish. *Coastal Carolina Scientific Diving Association – Scientific Diving Symposium*, Pine Knoll Shores, NC, USA.

Paxton, A.B., J.C. Taylor, D.P. Nowacek, J. Dale, E. Cole, C.M. Voss, and C.H. Peterson. February 2016. Seismic survey noise disrupted fish use of a temperate reef. *UNC Curriculum for the Environment and Ecology Research Symposium*, Chapel Hill, NC, USA.

Paxton, A.B., J.C. Taylor, D.P. Nowacek, C.H. Peterson, and C.M. Voss. October 2015. Fish use of artificial structures and fish response to a seismic survey. *Meeting with BOEM Director and Leadership*, Beaufort, NC, USA.

Granzotti, R.V., **A.B. Paxton**, and C.H. Peterson. September 2015. Influence of prey and predator presence on habitat selection by the temperate reef fish *Centropristis striata* (black sea bass). *XII Brazilian Congress of Ecology*, Brazil. (also poster presentation)

Paxton, A.B., J.C. Taylor, D. Nowacek, J. Dale, E. Cole, C.M. Voss, B. Degan, E. Ebert, and C.H. Peterson. September 2015. *In situ* response of reef-associated fish to a marine seismic survey. *Institute of Marine Sciences, Graduate Student Symposium*, Morehead City, NC, USA.

Paxton, A.B. and D.M. Smith. February 2015. Mirror, Mirror on the Reef: Fish Utilization of Novel Perceived Habitat on an Artificial Reef in Albania. *Aquatic Sciences Meeting – Association for the Sciences of Limnology and Oceanography*. Granada, Spain.

Paxton, A.B., A.A. Larkin, H.L. Heenehan, J.T. Ridge, and E.J. Theuerkauf. February 2015. Scientific Research and Education Network (SciREN): A Novel Approach to Connecting Local STEM Researchers and Educators. *Aquatic Sciences Meeting – Association for the Sciences of Limnology and Oceanography*. Granada, Spain.

D.M. Smith and **A.B. Paxton**. November 2014. Mirror, mirror on the reef: a study of visual cues in fish communities on an artificial reef in Albania. Western Society of Naturalists, Tacoma, WA, USA.

Paxton, A.B. and D.M. Smith. October 2014. Mirror, Mirror on the Reef and Other Tales from Albania. *UNC – Institute of Marine Sciences, Think Tank*. Morehead City, NC, USA.

Paxton, A.B. and C.H. Peterson. September 2014. Fish use of temperate hard-bottom reefs given structural complexity. *UNC – Institute of Marine Sciences, Graduate Student Symposium*. Morehead City, NC, USA.

Paxton, A.B. and N. Lee. December 2011. Documenting the Relationship Between Substrate Angle and Invertebrate Assembly Patterns: An Approach for Assemblage Identification. *University of Washington - Friday Harbor Laboratories, Research Symposium*, Friday Harbor, WA, USA.

Paxton, A.B. April 2011. Establishing a Biological Baseline for Shipwrecks in North Carolina Coastal Waters. *University of Virginia, Distinguished Majors Symposium*. Charlottesville, VA, USA.

Paxton, A.B. July 2010. Biological Aspects of North Carolina Shipwrecks. *Hollings Scholar Symposium*. Silver Spring, MD, USA.

POSTERS PRESENTATIONS

Lemoine, H.L., **A.B. Paxton**, R.C. Rosemond, and C.H. Peterson. November 2016. Metal ships, concrete modules, and rocky reefs: Quantifying how reef type influences fish communities. *Western Society of Naturalists*, Monterey, CA, USA.

Theuerkauf, E.J., J.T. Ridge, H.L. Heenehan, A.L. Larkin, and **A.B. Paxton**. November 2015. Enhancing geoscience in the K-12 classroom by building a network that connects educators with local, cutting-edge research. *Geological Society of America*, Baltimore, MD, USA.

Paxton, A.B., A.L. Larkin, H.L. Heenehan, J.T. Ridge, and E.J. Theuerkauf. October 2015. SciREN Portal: An interactive tool that connects researchers and educators. *Kenan-Biddle Poster Session*, Chapel Hill, NC, USA.

Granzotti, R.V., **A.B. Paxton**, and C.H. Peterson. September 2015. Influence of prey and predator presence on habitat selection by the temperate reef fish *Centropristis striata* (black sea bass). *XII Brazilian Congress of Ecology*, Brazil. (also oral presentation)

Heenehan, H.L., A.L. Larkin, **A.B. Paxton**, J.T. Ridge, and E.J. Theuerkauf. October 2014. The Scientific Research and Education Network (SciREN): Bringing current and local scientific research into K-12 classrooms. *Bridging the Gap*, Raleigh, NC, USA.

Paxton, A.B. April 2011. Establishing a Biological Baseline for Shipwrecks in North Carolina. *Harrison Research Grant Symposium*, Charlottesville, VA, USA.

TEACHING EXPERIENCE

2016 Fall Estuarine and Coastal Marine Ecology (ENEC 448, MASC 448), Co-Instructor with C.H. Peterson, N. Lindquist, J.H. Rosman, University of North Carolina – Institute of Marine Sciences.

2015 Fall Estuarine and Coastal Marine Ecology (ENEC 448, MASC 448), Co-Instructor with C.H. Peterson, N. Lindquist, J.H. Rosman, S.R. Fegley, University of North Carolina – Institute of Marine Sciences.

2014 Fall Estuarine and Coastal Marine Ecology (ENEC 448, MASC 448), Co-Instructor

with C.H. Peterson, N. Lindquist, J.H. Rosman, S.R. Fegley, University of North Carolina – Institute of Marine Sciences.

- 2014 Fall Scientific Diving Course, Guest Lecturer, University of North Carolina – Institute of Marine Sciences.
- 2013 Spring Biology Laboratory (BIOL 101L), Graduate Teaching Assistant, University of North Carolina at Chapel Hill, two labs of twenty students each.
- 2012 Fall Biology Laboratory (BIOL 101L), Graduate Teaching Assistant, University of North Carolina at Chapel Hill, two labs of twenty students each.
- 2012 Independent SCUBA Instructor, Friday Harbor, WA.
- 2008 – 2011 SCUBA Instructor, Divemaster, Crew, Outer Banks Dive Center, Nags Head, NC.
- 2008 – 2011 SCUBA Instructor, Divemaster, Retail Staff, Dive Connections, Charlottesville, VA.

SUPERVISION AND MENTORING

Technicians Supervised:

Rebecca ‘Claire’ Rosemond, June 2015 – pres.
Rebecca Gaesser, April 2016 – September 2016
Hayley Lemoine, June 2015 – September 2016
Alyssa M. Adler, June 2013 – August 2015
Emily A. Pickering, June 2013 – July 2015

Interns Supervised:

Rebecca Gaesser, January 2016 – March 2016, Understanding how underwater sound influences fish use of offshore reefs

Undergraduate Students Mentored:

Alexander Requarth, UNC-CH, summer 2016 – pres., Understanding how underwater sound influences fish use of offshore reefs
Douglas Rouse, UNC-CH, summer – pres., Understanding how underwater sound influences fish use of offshore reefs
Locke Revels, UNC-CH, summer - fall 2016, Understanding how underwater sound influences fish use of offshore reefs
Kirsten Wiedbusch, UNC-CH, summer 2016, Understanding how underwater sound influences fish use of offshore reefs
Yuri Azevedo, Federal University of Rio de Janeiro, summer 2016, Understanding how underwater sound influences fish use of offshore reefs
Pedro Oliveira, Federal University of Rio de Janeiro, summer 2016, Understanding how underwater sound influences fish use of offshore reefs

Sarah Richardson, UNC-CH, spring 2016, Understanding how underwater sound influences fish use of offshore reefs

Thrisha Oruganti, UNC-CH, spring 2016, Understanding how underwater sound influences fish use of offshore reefs

Rafaela Granzotti, UNC-CH and Universidade Estadual de Maringá, summer 2014, Influence of prey and predator presence on habitat selection by the temperate reef fish *Centropristis striata* (black sea bass).

Christopher Peters, UNC-CH, summer 2014, Influence of scent of artificial and natural substrates on habitat preference of reef-associated fishes.

Kimberly McCormick, UNC-CH, summer 2014, Effect of currents on the vertical position of reef-associated fishes on artificial reefs

High School Students Mentored:

Ryan Condra, Asheville Christian Academy, summer 2014, Habitat preference of temperate reef fish

OUTREACH

- 2013 – pres. Board Member, Scientific Research and Education Networking (SciREN), non-profit that connects STEM researchers with K-12 educators to bring cutting-edge research to classrooms, <http://www.thesciren.org>
- 2016 Invited Scientist and Activity Coordinator, ‘Offshore Reefs – “What? We have Reefs off NC?”’ NC Seafood Festival, Morehead City, NC, 30 September 2016 (~150 students)
- 2016 Blog author, ‘[Biology of shipwrecks of the Battle of the Atlantic](#)’ mission log for NOAA Ocean Explorer for Battle of the Atlantic: Archaeology of an Underwater World War II Battlefield, 7 September 2016, with J.C. Taylor
- 2016 Invited Speaker, P.E.O. State Convention, ‘Passport to the Graveyard of the Atlantic’, 4 June 2016 (~400 people).
- 2016 Science Moderator, Blue Heron Bowl, Morehead City, NC, 6 February 2016
- 2016 Invited Speaker, P.E.O. Chapter Meeting, ‘Exploring the Secret Gardens of North Carolina,’ 20 January 2016 (~ 40 people)
- 2013 – 2016 Chair and Founder, University of North Carolina - Institute of Marine Sciences Graduate Student Association, Morehead City, NC
- 2015 Invited Speaker, Beaufort Ole Towne Rotary Club, ‘Offshore Reefs: Secret Gardens of North Carolina,’ 14 December 2015 (~50 people)
- 2015 Speaker, Carteret Community College C-STEP ‘Day at IMS,’ ‘A day in the life of

- a scientist studying offshore reefs of NC,' 30 October 2015 (~10 people)
- 2015 Invited Scientist and Activity Coordinator, 'Offshore Reefs – "What? We have Reefs off NC?"' NC Seafood Festival, Morehead City, NC, 2 October 2015 (~150 students)
- 2014 Organizing Committee, Beneath the Waves Film Festival in Carteret County sponsored by Institute of Marine Sciences as part of NC Science Festival, April 2014
- 2014 Speaker, 'Our Hardbottom Reefs of North Carolina,' Outreach Day on NOAA Ship *Nancy Foster*, with P. Whitfield. 16 May 2014 (~ 60 students)
- 2013 Student Leader, Scientists with Stories, sponsored by University of North Carolina at Chapel Hill and Duke University
- 2008 – 2011 President and Founder, SCUBA Club at UVA, Charlottesville, VA.
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PRESS COVERAGE

- 2017 '[Engaging the future: SciREN and the evolution of science outreach](#),' North Carolina Sea Grant Coastwatch by Kathleen Onorevole, January 2017
- 2016 '[The science of North Carolina's artificial reefs](#),' Public Radio East, Down East Journal by Jared Brumbaugh, September 2016
- 2016 '[UNC researchers study impact of underwater sound](#),' WRAL News Raleigh by Richard Adkins, August 2016
- 2016 '[Women in Science](#),' Q&A feature by UNC Endeavors, August 2016
- 2016 '[Wind Energy Area Biological Surveys](#),' video produced by John McCord (UNC-CSI), February 2016
- 2016 '[Picking the right spot: how scientists find the best places to put future wind energy sites in the ocean](#),' NOAA National Ocean Service News, February 2016
- 2015 '[Shipwrecks off coast prove beneficial for marine life](#),' WCTI-12 News by Jonathan Weant, November 2015
- 2015 '[Recognizing North Carolina's wind energy potential](#),' The News & Observer, op-ed by Harvey Seim (UNC), includes our findings on reefs, September 2015
- 2015 '[Students receive award for connecting researchers, educators](#),' Carteret County News Times by Mike Shutak, January 2015
- 2014 '[IMS, collaborators study N.C. reefs](#),' Carteret County News Times by Mike Shutak, December 2014
- 2014 '[The tropical reefs of North Carolina?](#)' Coastal Review Online by Tess Malijenovsky, October 2014
- 2014 '[Life on the Rocks](#),' UNC – TV Science Now segment by Frank Graff, July 2014
- 2014 '[Scoping out the sea for science](#),' WCTI-12 News by Ellen Bacca, June 2014
- 2014 '[Sea turtles relocated to NC shipwreck](#),' WCTI-12 News by Ellen Bacca, June 2014

- 2014 '[Giving sea turtles a lift](#),' UNC Research by Mary Lide Parker, June 2014
 2014 '[Carolina's IMS divers pitch in with sea turtle transport](#),' UNC Gazette by
 Courtney Mitchell, April 2014
 2014 '[Beneath the Waves Film Festival](#),' Public Radio East by Jared Brumbaugh,
 March 2014
 2014 '[UNC-Duke Rivalry? Not for SciREN](#),' UNC press by Kerry Irish, February 2014
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PROFESSIONAL MEMBERSHIPS

- 2013 – pres. Ecological Society of America (ESA), Student Member
 2013 – pres. Association for the Sciences of Limnology and Oceanography (ASLO), Student
 Member
 2013 – pres. American Fisheries Society (AFS), Student Member
 2013 – pres. American Academy of Underwater Sciences (AAUS), Student Member
 2008 – pres. Diver's Alert Network
 2008 – pres. Professional Association of Diving Instructors (PADI), Professional Member
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CERTIFICATIONS AND PROFICIENCIES

Scientific Diving:

- 2013 AAUS Lead Diver at University of North Carolina at Chapel Hill, Institute for
 Marine Sciences
 2012 AAUS Lead Diver at Albanian Center for Marine Research
 2011 AAUS Scientific Diver to 130 ft

Professional Diving:

- 2012 PADI Dry Suit Specialty Instructor
 2011 PADI Master SCUBA Diver Trainer
 2010 PADI Enriched Air Specialty Instructor
 2010 PADI Deep Diver Specialty Instructor
 2010 PADI Wreck Diver Specialty Instructor
 2010 PADI Search and Recovery Specialty Instructor
 2010 PADI Open Water SCUBA Instructor
 2010 Emergency First Responder CPR / AED / First Aid Instructor
 2009 PADI Assistant Instructor
 2008 PADI Divemaster

Recreational Diving:

- 2009 NSS-CDS Intro Cave Diver
 2008 NSS-CDS Cavern Diver
 2008 PADI Master Diver
 2008 NAUI Nitrox Diver
 2007 PADI Advanced Open Water and Rescue Diver
 2005 PADI Open Water Diver

Software Proficiency:

Statistics: R; Matlab; PRIMER-E; SAS

Data Management: Github; Microsoft Access

Photoquadrat Analysis: CPCe, PhotoGrid, Image J; CoralNet

Geographic Information Systems: ArcGIS

Media: Adobe Photoshop, Adobe Prelude; Adobe Premier, Adobe Illustrator

Physical Oceanography: Nortek software for AWAC and Vectrino instruments; WinRiverII software for RDI ADCP with bottom-tracking

Bioacoustics: Echoview (fisheries acoustics data processing); ER60 (Simrad EK60 split-beam fisheries acoustics data acquisition); RAVEN

Miscellaneous: HOBOWare Pro; Marxan (conservation analysis); Portfolio (conservation analysis); Hypack (marine survey design)

PROFESSIONAL DEVELOPMENT TRAINING

- 2016 Echoview Training Course. September 2016, in person. Halifax, Canada.
- 2016 Alan Alda Center for Communicating Science – Communications Bootcamp. January 2016, in person. Stony Brook University, Stony Brook, NY.
- 2016 An Introduction to Structural Equation Modeling (SEM) for Ecology and Evolutionary Biology Workshop. January 2016. Taught by Jarrett Byrnes, in person. University of North Carolina at Chapel Hill, NC.
- 2015 SciFund Outreach Class. October – November 2015. SciFund Challenge, online.
- 2015 SciFund Poster Class. June – July 2015. SciFund Challenge, online.
- 2015 Reproducible Science Workshop – Tools, Resources, and Practices. May 14-15, 2015. Duke University, Durham, NC.
- 2012 Becoming an Effective Mentor. September - October 2012. University of North Carolina at Chapel Hill, Chapel Hill, NC.
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GRADUATE LEVEL COURSEWORK

- 2016 Spring Sound in the sea: introduction to marine bioacoustics (Instructor: Doug Nowacek (Duke University); software: RAVEN, Matlab)
- 2014 Fall Data and time series analysis in marine sciences (Instructor: Jim Hench (Duke University); software: Matlab)
- 2014 Spring Ecological community analysis (Instructors: Lauren Yeager & Joel Fodrie; software: PRIMER-E)

2013 Spring Geospatial analysis for coastal and marine management (Instructor: Pat Halpin (Duke University); software: ArcGIS, Marxan)
Landscape analysis and management (Instructor: Dean Urban (Duke University); software: R)
R Seminar (Instructor: Lauren Buckley; software: R)

2012 Fall Physical oceanography (Instructor: Harvey Seim)
Scientific writing seminar (Instructors: Joel Kingsolver & Maria Servedio)
Statistical methods in ecology (Instructor: Jack Weiss; software: R)

COLLABORATORS

C.H. Peterson (UNC-IMS), J.H. Rosman (UNC-IMS), F.J. Fodrie (UNC-IMS), S.R. Fegley (UNC-IMS), C.M. Voss (UNC-IMS), A.H. Hurlbert (UNC), D.W. Johnston (Duke University), C.R. Newton (Syracuse University), D.P. Nowacek (Duke University), J.C. Taylor (NOAA NOS CCFHR-Beaufort), D.M. Smith (University of Washington), K.P. Sebens (University of Washington), G.C. Ray (University of Virginia), J. McCormick-Ray (University of Virginia), Maryland DNR, Chesapeake Bay Foundation, NOAA National Marine Sanctuaries.
