

Diane Bennett Fribance, Ph.D.

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CURRICULUM VITA

Personal

Date: August 2022
Position: Associate Professor of Marine Science
Department of Marine Science, Coastal Carolina University
P.O. Box 261954, Conway, SC 29528

Educational History

2010 Ph.D., Department of Marine Sciences, University of Connecticut, Groton, CT
2008 M.S., Department of Marine Sciences, University of Connecticut, Groton, CT
2003 B.A., Computer Science, Williams College, Williamstown, MA

Professional Positions

2018 – present Associate Professor, Department of Marine Science, Coastal Carolina University, Conway, SC
2013 - 2018 Assistant Professor, Department of Marine Science, Coastal Carolina University, Conway, SC
2011 - 2013 NRC Postdoctoral Research Associate, Naval Research Laboratory, Stennis Space Center, MS
2009-2010 Visiting Lecturer, Williams College – Mystic Seaport Maritime Studies program, Mystic, CT
2004 - 2010 Graduate Research Assistant, Department of Marine Sciences, University of Connecticut, Groton, CT
2002 - 2003 Research Assistant, Computer Science Department, Williams College, Williamstown, MA

Teaching, Training, Mentoring

Courses taught:

Coastal Carolina University:

Introduction to Marine Science lecture and laboratory (MSCI 111/L),
Physical Oceanography lecture and laboratory (MSCI 301/L),
Hydrographic Techniques lecture and laboratory (MSCI 311/L),
Physical Monitoring of Coastal Waters (MSCI 399Q),
Independent study (MSCI 399, MSCI 499)
Honors theses (MSCI 397, MSCI 497)
Essential Quantitative Skills in Coastal & Marine Science (CMWS 500)

Williams-Mystic Maritime Studies Program:

Oceanographic Processes lecture and laboratory (MAST 211)

Undergraduate Research Projects Mentored:

05/22-12/22 Slacum, Hannah: River Plume Dynamics
MSCI 395 03/MSCI 399 01, 4 credits

- 01/20-05/21 Campbell, Bridget: Biophysical Reef Interactions
MSCI 399 Q14/MSCI 397 H3/MSCI 497 H4, 7 credits
- 01/18-05/18 Berry, Carson: Physics of Turbulence
MSCI 399 HQ2, 1 credit
- 08/17-12/17 Wessinger, Sarah: Reef Bio-Physical Interactions
MSCI 399 10, 1 credit
- 08/17-12/17 Becker, Amanda: Hypoxia in Long Bay
MSCI 399 02, 2 credits
- 06/17-08/17 Singletary, Caitlin: Data Visualization in Marine Science
C-SURF RUI summer program
- 01/17-12/17 Stephens, Heidi: Turbulence Dynamics
MSCI 399 H4 / MSCI 499 HQ1, 6 credits
- 01/17-05/17 Swafford, Edward: Tidal Creek Velocities
MSCI 399 17, 2 credits
- 08/16-05/17 Coderre, Haley: Ocean Circulation & Hypoxia in SC
MSCI 399 16 / MSCI 399 02, 4 credits
- 08/16-12/16 Harrington, Kyra: Ocean Circulation & Hypoxia
MSCI 499 01, 4 credits
- 08/15-05/16 Lewis, Maryland: Examining Hypoxia over Large Spatial Scales
MSCI 399 11 / MSCI 499 04, 4 credits
- 06/15-12/15 Bishop, Kaila: Physical Properties of Winyah Bay, SC
MSCI 399 01, 1 credit
- 01/15-05/15 O'Brien, Malarie: Analysis of Hypoxia Data
MSCI 399 05, 1 credit
- 08/14-12/14 Sagona, Joshua: Geophysical Fluid Apparatus
MSCI 399 41, 1 credit
- 08/14-12/14 Stonestreet, Anne Marie: Estuarine Circulation
MSCI 399 04, 1 credit

Master's & Dissertation Committees:

- 08/22-current Gossman, Anne. M.S. "Offshore transport in a cross-shelf plume" School of Coastal and Marine Systems Science, Coastal Carolina University, Conway, SC. (Major advisor)
- 01/22-current Beasley-Polko, Kaitlin, M.S. "Using acoustics to assess biophysical interactions at a temperate reef" School of Coastal and Marine Systems Science, Coastal Carolina University, Conway, SC. (Major advisor)
- 01/22-current Shen, Dongliang, Ph.D. "Using artificial intelligence and machine learning to improve atmosphere and ocean modeling." School of Coastal and Marine Systems Science, Coastal Carolina University, Conway, SC. (Committee member)
- 08/21-current Kline, Andrew, M.S. "Physical Drivers of Primary Productivity from Key Lower St. John's River Tributaries" Jacksonville University, Jacksonville, FL. (Committee member)
- 01/20--current Stanek, Matthew, Ph.D. "Ocean Wave-Coherent Temperature and Humidity Near-Surface Vertical Distributions and Their Effect on Radar Performance over the Ocean" School of Coastal and Marine Systems Science, Coastal Carolina University, Conway, SC. (Committee member)
- 08/16-12/18 Pastore, Douglas, M.S., "Relationships between geomorphology, velocity and water quality in Singleton Swash, SC" Coastal Marine and Wetland Studies, School of

- Coastal and Marine Systems Science, Coastal Carolina University, Conway, SC. (Committee member)
- 08/16-12/18 Stanek, Mathew, M.S., “Characterization of turbulent boundary layers developed in open channel flow using particle image velocimetry,” Coastal Marine and Wetland Studies, School of Coastal and Marine Systems Science, Coastal Carolina University, Conway, SC. (Committee member)
- 08/15-05/17 Kammerer, Andrew J., M.S., “The Application of Proper Orthogonal Decomposition to Numerically Modeled and Measured Ocean Surface Wave Fields Remotely Sensed by Radar,” Coastal Marine and Wetland Studies, School of Coastal and Marine Systems Science, Coastal Carolina University, Conway, SC. (Committee member)
- 01/14-05/15 Thepaut, Benjamin, M.S., “The Extent of Tidal Influence in the Waccamaw River, SC,” Coastal Marine and Wetland Studies, School of Coastal and Marine Systems Science, Coastal Carolina University, Conway, SC. (Committee member)

Advising:

(numbers indicate spring/fall advising load)

- 2022 Academic advisor to 76 students
- 2021 Academic advisor to 76/74 students
- 2020 Academic advisor to 66/74 students
- 2019 Academic advisor to 65/72 students
- 2018 Academic advisor to 87/85 students
- 2017 Academic advisor to 67/83 students
- 2016 Academic advisor to 63/64 students
- 2015 Academic advisor to 57/68 students
- 2014 Academic advisor to 44/61 students
- 2013 Academic advisor to 23/44 students

Scholarly/Research & Grant Activities**Scientific Peer-Reviewed Journal Publications** (in order by year)

(underlined names indicate student authors)

- 2022 Yankovsky, Alexander, **D.B. Fribance**, D. Cahl and G. Voulgaris. 2022. Offshore spreading and mixing of a supercritical plume under upwelling wind forcing: a case study of the Winyah Bay outflow. *Frontiers in Marine Science* DOI: <https://doi.org/10.3389/fmars.2021.785967>
- 2019 Pastore, D.M., Peterson, R.N., **Fribance, D.B.**, Viso, R., Hackett, E.E. “Hydrodynamic Drivers of Dissolved Oxygen Variability within a Tidal Creek in Myrtle Beach, South Carolina.” *Water*, 11, 1723.
- 2017 Meghan L. Troup, **Diane B. Fribance**, Susan M. Libes, Roi Gurka and Erin E. Hackett. “Physical Conditions of Coastal Hypoxia in the Open Embayment of Long Bay, South Carolina: 2006-2014.” *Estuaries and Coasts*. doi:10.1007/s12237-017-0246-x
- 2014 Hemantha W. Wijesekera, E. Jarosz, W.J. Teague, W.D. Wang, **D.B. Fribance**, J.N. Moum and S.J. Warner. “Measurements of Form and Frictional Drags over a Rough Topographic Bank.” *Journal of Physical Oceanography*, (44), pp 2409-2432.
- Jarosz, Ewa, H.W. Wijesekera, W.J. Teague, **D.B. Fribance**, M.A. Moline. “Observations on Stratified Flow over a Bank at Low Froude Numbers.” *Journal of Geophysical Research*, 199 (9), pp. 6403-6421.

- 2013 **Diane B. Fribrance**, James O'Donnell and Adam Houk. "Residual Circulation in Western Long Island Sound". *Journal of Geophysical Research*, 118 (8), 4727-4745.
- William J. Teague, H.W. Wijesekera, E. Jarosz, **D.B. Fribrance**, A. Lugo-Fernandez, Z.R. Hallock. "Current and hydrographic conditions at the East Flower Garden Bank in 2011." *Continental Shelf Research*, (63), pp 43-58.
- Hemantha W. Wijesekera, D.W. Wang, W.J. Teague., E. Jarosz, E. Rogers, **D.B. Fribrance**, J.N. Moum. "Surface Wave Effects on High-Frequency Currents over a Shelf Edge Bank." *Journal of Physical Oceanography*, (43) 1627–1647.
- 2010 **Diane C. Bennett**, James O'Donnell, W. Frank Bohlen, and Adam Houk. "Tides and Overtides in Long Island Sound". *Journal of Marine Research*, 82(1).

Other Non-Peer-Reviewed Journal Publications

- 2021 Werr, A.M., Abuomar, O., **Fribrance, D.** (2021). Informatics Based Study on Acoustic Doppler Current Profiler Dataset. In: Arai, K. (eds) Advances in Information and Communication. FICC 2021. Advances in Intelligent Systems and Computing, vol 1364. Springer, Cham. https://doi.org/10.1007/978-3-030-73103-8_4
- 2011 **Diane B. Fribrance**, Hemantha W. Wijesekera, William J. Teague, 2011. "Measurements of Hurricane-Induced High Frequency Currents." In: Proceedings of Oceans '11 MTS/IEEE Kona.
- 2007 Prentiss H. Balcom, Jeff M. Godfrey, **Diane C. Bennett**, Gary A. Grenier, Christopher G. Cooper, David R. Cohen, Dennis A. Arbige, and William F. Fitzgerald, 2007. "Deploying Benthic Chambers to Measure Sediment Oxygen Demand in Long Island Sound". In: Diving for Science 2007, Proceedings of the American Academy of Underwater Sciences.

Books & Book Chapters

- 2014 James O'Donnell, Robert E. Wilson, Kamazima Lwiza, Michael Whitney, W. Frank Bohlen, Daniel Codiga, **Diane B. Fribrance**, Todd Fake, Malcolm Bowman, and Johan Varekamp. "The Physical Oceanography of Long Island Sound." in Long Island Sound – Prospects for an Urban Sea. Eds. J.S. Latimer, M.A. Tedesco, R.L Swanson, C. Yarish, P.E. Stacey and C. Garza, Springer New York, New York.

Unpublished Dissertation

- 2010 **Diane C. Bennett**, "The Dynamical Circulation of a Partially Stratified, Frictional Estuary: Long Island Sound." Ph.D. Dissertation, University of Connecticut, 177 pp.

Technical Reports

- 2020 Campanella, F., P.J. Auster, C. Taylor, R. Muñoz and **D. Fribrance**. 2020. Patterns of predator-prey co-occurrence and behavioral interactions over diel periods at sub-tropical reefs: results from 2016 observations. pp. 86-97, in: K. Roberson, P.J. Auster, S. Fangman, and M. Harvey (eds). Review of Scientific Research In and Around the Designated Research Area of Gray's Reef National Marine Sanctuary (NW Atlantic). Marine Sanctuaries Conservation Series ONMS-00-00. U.S. Department of Commerce. National Oceanic and Atmospheric Administration, Office of National Marine Sanctuaries, Silver Spring, MD.
- 2014 James O'Donnell, K. Howard-Strobel, D. Cohen, S. Ackleson, A. Cifuentes-Lorenzen, **D. Fribrance**, R. Horwitz, G. McCardell, F. Bohlen, and T. Fake. "Physical Oceanography of Eastern Long Island Sound Region: Field Data." Supplemental Environmental Impact Statement for the Designation of Dredged Material Disposal Site(s) in Eastern Long

Island Sound, Connecticut and New York, Appendix C-1. Prepared for US EPA, sponsored by CT DOT.

National/International Refereed Conference & Symposium Presentations

(underlined names indicate student authors)

- 2022 **Diane B. Fribance**, A.E. Yankovsky, D. Cahl and G. Voulgaris, The importance of cross-shelf plumes. Ocean Sciences Meeting 2022. Virtual talk, March 17, 2022.
- 2021 Alexander E. Yankovsky, **Diane B. Fribance**, Douglas Cahl, and George Voulgaris (University of South Carolina, Columbia, SC, USA), [Offshore spreading and mixing of a supercritical plume under upwelling wind forcing: a case study of the Winyah Bay outflow](#). PECS 2021. Virtual talk, March 17, 2021.
- Werr, A.M., O Abuomar, **D. Fribance**, Informatics Based Study on Acoustic Doppler Current Profiler Dataset. Future of Information and Communication Conference, April 2021.
- 2018 Pastore, D., R.N. Peterson, R.F. Viso, **D.B. Fribance**, and E.E. Hackett (2018, December). Hydrodynamics Drivers of Dissolved Oxygen Variability Within a Highly Developed Tidal Creek in Myrtle Beach, South Carolina. AGU Fall Meeting, Washington, D.C.
- 2017 Campanella, Fabio, P. Auster, R. Munoz, **D. Fribance**, J.C. Taylor. Habitat drivers of predator prey interactions over rocky reefs revealed by fisher acoustics (2017, September). Poster presented at ICES CM 2017, session F, Fort Lauderdale, USA.
- 2016 Lewis, M.E., **D.B. Fribance** and L.E. Keiner. Physical factors connected to hypoxia in Long Bay (2016, February). Poster presented at AGU Ocean Sciences Meeting 2016, New Orleans, LA.
- Troup, M.L., **D.B. Fribance**, S.M. Libes, R. Gurka and E.E. Hackett. Physical conditions during hypoxic events in Long Bay, South Carolina: 2006-2014 (2016, February). Poster presented at AGU Ocean Sciences Meeting 2016, New Orleans, LA.
- 2013 **Fribance, Diane B.**, James O'Donnell. Residual Force Balance in Western Long Island Sound (2013, June). Poster presented at Gordon Research Conference, University of New England, New Biddeford, ME.
- 2012 **Fribance, Diane B.** Internal Wave Generation and Variability over Rough Topography (2012, February). Poster presented at Ocean Sciences 2012, Salt Lake City, UT.
- 2009 **Bennett, Diane**, James O'Donnell. Residual Circulation in Long Island Sound (2009, June). Poster presented at Gordon Research Conference on Coastal Ocean Circulation, New London NH.
- 2008 **Bennett, Diane**, James O'Donnell, Adam Houk. Modeling tidal velocities in Long Island Sound (2008, October). MAPBOM meeting, Woods Hole, MA.
- Bennett, Diane**, James O'Donnell, Adam Houk. Observations of tidal circulation in Long Island Sound (2008, March). Poster presented at Ocean Sciences, Orlando, FL.
- 2007 **Bennett, Diane**, James O'Donnell, Adam Houk. Interpreting Seasonal patterns in Horizontal Transport in Long Island Sound (2007, November). 19th Biennial Conference of the Estuarine Research Federation, Providence, RI.
- Balcolm, P., J. Godfrey, **D. Bennett**, G. Grenier, C. Cooper, D. Cohen, D. Arbige, and W. Fitzgerald Deploying Benthic Chambers to Measure Sediment Oxygen Demand in Long Island Sound (2007, March). American Academy of Underwater Sciences Annual Symposium, Miami, FL.
- 2006 **Bennett, Diane**, James O'Donnell, Adam Houk. Circulation in Long Island Sound (2006, February). Poster presented at Ocean Sciences, Oahu, Hawaii.

- 2005 **Bennett, Diane.**, James O'Donnell, Dave Ullman. Quantifying CODAR Error Variability (2005, November). MABPOM (Middle-Atlantic Bight Physical Oceanography & Meteorology) meeting, SUNY Stonybrook, Long Island, NY.

Local Refereed Conference & Symposium Presentations

(underlined names indicate student authors)

- 2021 Bridget Campbell, C. Krahforst and **D. Friabance**, Effects of physical and oceanographic characteristics on a reef fish community structure at GRNMS both inside and outside of an MPA. 2021 SDAFS (Southern Division of the American Fisheries Society), Virtual talk, April 6-9, 2021.
- 2019 Berry, Carson and **D.B. Friabance** (2019, May). MATLAB Applications in Marine Science Data Visualization. SEERS 2019 Spring Meeting, UNC-Wilmington.
- Wessinger, Sarah, **D.B. Friabance**, R. Gurka and E.E. Hackett (2019, October). Alongshore Spatial Scales of Hypoxia in Long Bay, SC: 2012-2017. American Shore and Beach Preservation Association (ASBPA) National Coastal Conference, "Where Coasts and Rivers Meet." Myrtle Beach, SC.
- 2018 **Friabance, D.B.**, S.E. Wessinger, R.Gurka, E.E. Hackett (2018). Physical controls of hypoxia in an open embayment. SEERS 2018 Spring Meeting, St. Augustine, FL.
- 2017 **Friabance, Diane B.**, R. Gurka, E.E. Hackett, K. Harrington and M.L. Troup. Long-term dissolved oxygen trends in Long Bay, SC (2016, April). Poster presented at SEERS Spring 2017 meeting / 46th annual BEMS meeting, Myrtle Beach, SC.
- 2015 **Friabance, Diane B.** and Erin Hackett. Variability of the Turbulent Kinetic Energy Dissipation Rate in Winyah Bay, SC (2015, March). Southeastern Estuarine Research Society (SEERS) Spring Meeting, Jacksonville, FL.
- Friabance, Diane B.**, Sloan E. Hilton, Greg Masessa, Emilye Rybarczyk, Anna Vidal (2015, March). Southeastern Estuarine Research Society (SEERS) Spring Meeting, Jacksonville, FL.
- 2011 **Friabance, Diane B.** Internal Waves and Turbulence on the Continental Shelf (2011, October). Pattullo Conference, Warrenton, VA.
- 2010 **Bennett, Diane** Circulation in Long Island Sound (2010, May). Pattullo Conference, Charleston, SC.
- 2010 **Bennett, Diane**, James O'Donnell. Residual Circulation in Long Island Sound. Feng Colloquium, University of Connecticut, Avery Point, Groton, CT.
- 2008 **Bennett, Diane**, James O'Donnell, Adam Houk. Modeling tidal velocities in Long Island Sound (2010, May). Long Island Sound Research Conference, New London, CT.
- 2006 **Bennett, Diane**, James O'Donnell. The Dynamics of Circulation in Long Island Sound (2006, May). Feng Colloquium, University of Connecticut Avery Point, Groton, CT.

Local Workshops & Seminars

- 2018 Grate, Issia and **D. Friabance** (2018, April). Water Quality of Two Coastal Areas on the East Coast. Undergraduate Research Competition, Coastal Carolina University.
- 2015 **Friabance, Diane B.** Circulation and Mixing in Winyah Bay: An Observational Approach (2015, January). Invited seminar speaker, Coastal Carolina University's School of Coastal and Marine Systems Science, Conway, SC.
- 2013 **Friabance, Diane B.** Estuarine Circulation and Hypoxia (2013, December). Invited seminar speaker, University of Georgia, Athens, GA.
- 2010 **Bennett, Diane.** Challenges of Modeling Nonlinear Tidal Dynamics (2010, March). Guest seminar, NRL Oceanography Division, Stennis Space Center, MS.

Peer Reviewer

2022 NSF grant proposal (2), NERC research proposal (1)
 2020 NSF grant proposal (1)
 2019 NSF grant proposal (2)
 2018 NSF grant proposal (2), Journal of Geophysical Research – Oceans, Journal of Marine Systems
 2017 NSF grant proposal (1)
 2016 NSF grant proposal (2)
 2015 NSF grant proposal, Journal of Geophysical Research - Atmospheres
 2014 NSF grant proposal
 2013 NSF grant proposal (2)
 2012 Journal of Atmospheric and Oceanic Technology, Journal of Coastal Research
 2011 Journal of Marine Systems

Grants Awarded & In progress

8/22-9/26 PI **D. Fribance**, co-PIs G. Voulgaris and A. Yankovsky (University of South Carolina). Collaborative Research: Dynamics of Cross-Shelf Plumes under Upwelling Wind Conditions. \$1,288,520. NSF, Ocean Sciences (Physical Oceanography).

Grants Awarded & Completed

08/19-08/20 PI **D. Fribance**, Biophysical Interactions within a Temperate Reef. Summer funding for an undergraduate student (Bridget Campbell) to complete data analysis on bioacoustic and CTD data collected in Gray's Reef National Marine Sanctuary, and to cover purchase of EchoView software. Student will continue analysis for her honors thesis. \$4,478. Coastal Carolina University Professional Enhancement Grant.

08/19-07/20 PIs Guentzel, Jane, E. Burge, S. Libes, **D. Fribance**, D. Abel, B. Craig, K. Walters, E. Rosch, J. Harding, A. Hannides, M. Stoughton, G. Boneillo, and P. Limber: Marine Science Research Exposure / Experiential Learning Activities for First Year Students, \$36,000. Coastal Carolina University EL Initiative / QEP Grant.

08/18-07/19 PIs Guentzel, Jane, Dan Abel, George Boneillo, Erin Burge, Bradley Craig, **Diane Fribance**, Angelos Hannides, Juli Harding, Susan Libes, Eric Rosch, Margaret Stoughton, Keith Walters, Rob Young. Marine Science Research Exposure / Experiential Learning Activities for First Year Students, \$38,208. Coastal Carolina University EL Initiative / QEP Grant.

08/18-08/19 PI **D. Fribance**, Increasing Interactivity in Physical Oceanography. Funding for student to improve laboratory materials for Physical Oceanography, including development of a new app written in MATLAB, \$2,390. Coastal Carolina University Academic Enhancement Grant.

08/17-07/18 PIs D. Abel, G. Boneillo, E. Burge, **D. Fribance**, J. Guentzel, A. Hannides, J. Harding, E. Koepfler, S. Libes, E. Rosch, K. Walters. Research Exposure Courses and Expanded Upper Level Experiential Learning Course Offerings in Marine Science, \$30,651. Coastal Carolina University EL Initiative / QEP Grant.

- 08/16-07/17 PIs J. Guentzel, D. Abel, G. Boneillo, E. Burge, **D. Fribance**, E. Koepfler, J. Hill, E. Rosch, S. Libes, A. Lephardt, R. Viso. Marine Science Year 3: Early Research Exposure Courses for Majors and Expanded Upper Level EL Course Offerings in Marine Science, \$38,565.01. Coastal Carolina University EL Initiative / QEP Grant.
- 08/15-08/16 PIs **D. Fribance**, R. Gurka and E. Hackett, Measurement & Analysis of Physical Conditions Associated with Hypoxia. Summer deployment of ADVs to make first velocity measurements associated directly with physical data collected at piers to focus on mixing and circulation associated with hypoxic conditions, \$5,683.67, Coastal Carolina University Professional Enhancement Grant.
- 08/15-07/16 PIs E. Burge, **D. Fribance**, C. Gilman, J. Guentzel, J. Hill, E. Koepfler, S. Libes, R. Viso, R. Young. Marine Science Year 3: Early Research Exposure Courses for Majors and Expanded Upper Level EL Course Offerings in Marine Science, \$26,500.94. Coastal Carolina University EL Initiative / QEP Grant.
- 08/14-07/15 PIs J. Guentzel, **D. Fribance**, K. Fuss, C. Gilman, E. Koepfler, S. Libes, M. Trapp, R. Young, E. Burge, Marine Science Year 2: Early Research Exposure Courses for Majors and Expanded Upper Level EL Course Offerings in Marine Science, \$26,842.00. Coastal Carolina University EL Initiative / QEP Grant.
- 06/14-06/14 Early Career Geoscience Faculty: Teaching, Research, and Managing Your Career, \$1353.00. Coastal Carolina University professional activities mini-grant.
- 11/13-08/14 Determining the effects of curvature on flow structure in Winyah Bay, SC, \$5585.00, Coastal Carolina University Professional Enhancement Grant, Field work in Winyah Bay, SC measuring velocities, density, and dissipation rates over two cross-sections to determine forcing differences due to opposing curvature of the estuary.
- 08/13-05/14 PIs J. Guentzel, E. Burge, **D. Fribance**, E. Koepfler, R. Young, J. Hill, D. Abel, E. Rosch, G. Boneillo, K. Fuss, S. Libes, A. Lephart, Early Research Exposure Courses for Marine Science Majors: A Vehicle for Experiential Learning, Student Retention & Discovery, \$16,420.00. Coastal Carolina University EL Initiative / QEP Grant.

Grants Submitted but Not Funded

- 02/20-02/23 PI: D.B. Fribance (CCU), PIs A. Yankovsky and A. Bourbonnais (University of South Carolina). \$1,057,274, NSF Physical Oceanography. Field campaign to examine the role that tidally-pulsed fronts (such as the one leaving Winyah Bay) may have in efficiently transporting nutrients offshore, particularly under high river discharge and moderate wind forcing.
- 02/20-02/22 PIs: E.E. Hackett, **D.B. Fribance**, R. Gurka, and S. Libes. Hypoxia along Open Shorelines in South Carolina. \$129,291, South Carolina Sea Grant Consortium. Proposal to deploy instrumentation along the SC coast (Long Bay) to connect time series pier measurements to processes happening further offshore, and quantify trends in dissolved oxygen using a combination of moorings and ship surveys. A related proposal was submitted to Georgia Sea Grant by Catherine Edwards of Skidaway Institute of Oceanography, with the goal of a collaborative project leveraging gliders to constrain the offshore conditions.

- 01/18-01/21 PIs: **D. Fribance**, R. Gurka and E. Hackett, RUI: Assessing Hypoxia in an Open Embayment – Long Bay, SC. \$495,787, NSF Physical Oceanography, Spatial survey of nearshore and offshore characteristics associated with hypoxic conditions in Long Bay. We propose to make the first larger-scale concurrent velocity measurements during hypoxic events, as tested in summer 2016 deployment of ADVs, along with time series of dissolved oxygen and stratification to evaluate spatial and temporal scales of variability. My role was to lead observational efforts and supervise student data analysis.
- 01/18-12/20 PIs: S. Bao, **D. Fribance**, L. Keiner. Concept Letter: Quantification of microplastics concentration and variability in Winyah Bay and associated potential impacts, South Carolina Sea Grant Consortium.
- 09/16-08/21 PIs: E. Hackett, **D. Fribance**, R. Gurka, S. Libes. CHRP 2016: Assessing Risks for Preventions of Severe Hypoxia and Ecosystem Degradation in the Open Embayment of Long Bay, SC, \$1,806,691, NOAA, Collaborative project with V. Coles (UMCES). Comprehensive modeling and observational effort to characterize spatial scales of hypoxia in Long Bay, SC and predict potential impacts and risks. My role was to lead observational efforts and supervise student data analysis.
- 03/15-03/18 PIs: R. Peterson, **D. Fribance**, E. Hackett. Collaborative Research: An Isotopic Fingerprinting Study to Assess the Role of Submarine Groundwater Discharge in Driving Coastal Hypoxia, \$656,304, NSF, Focus on possibility of groundwater as source of low oxygen (hypoxia) in Long Bay, SC. Headed by Chemical Oceanographer, my role was to provide context for physical data using observational techniques.

Services

University Service

- 08/21-present Vice Chair, Faculty Senate.
- 08/19-8/21 Secretary, Faculty Senate.
- 08/17-present Member, Faculty Senate (Marine Science representative).
- 08/20-present Member, Graduate Admissions Committee.
- 08/20-present Member, peer mentoring committee (Dr. Stefaniak)
- 11/19-present Member, Faculty Benevolence Fund committee.
- 04/21-04/22 Judge for Undergraduate Research Competition (served annually).
- 08/21-05/22 Member, MCES degree development committee.
- 08/15-5/22 Member, College of Science handbook committee.
- 08/18-5/21 Member, Academic Affairs (College of Science representative).
- 8/19-12/21 Member, Marine Science Curriculum Committee.
- 9/20-1/21 Member, search committee for boat captain.
- 1/20-5/20 Member, Graduate Committee, School of Coastal and Marine Systems Science.
- 12/19-05/20 Chair, search committee for Tenure Track faculty in Marine Science (Physical Oceanography).
- 04/13-04/19 Judge for Undergraduate Research Competition (served annually).
- 12/18-07/19 Chair, search committee for Tenure Track faculty in Marine Science (Physical Oceanography or Marine Chemistry).

08/17-05/18	Member, search committee for Tenure Track faculty in Marine Science (Marine Geology).
01/14-01/17	Member, Department committee to consider BA option.
10/12-05/17	Member, Faculty long-term planning committee, Department of Marine Science.
04/26/17	Judge for Marine Biological Invasions (MSCI 487) student posters.
01/17-08/17	Member, search committee for visiting assistant professor (Marine Biology).
08/16-12/16	Member, search committee for adjunct.
04/15	Judge for Marine Biological Invasions (MSCI 487) student posters.
08/14-01/15	Member, Search committee for Tenure Track faculty in Marine Science (Marine Chemistry).
08/13-01/14	Member, search committee for Tenure Track faculty in Marine Science (Marine Geology).
03/13-07/13	Member, Search committee for Lecturer in Marine Science, Coastal Carolina University.

Community Services

01/21-present	Member of CCU's All-ABOARD team. This NSF sponsored project focuses on increasing equity, diversity and inclusion in the geosciences by building teams of faculty and students at various levels within a University to work together to conceptualize and implement solutions. CCU's team has focused on generating a student survey to identify issues that may affect retention and success of students of all backgrounds in our marine science programs.
07/21	Attended Ecological Connectivity Workshop, focused on making connections and sharing resources in preparation for generating the 2022 GRNMS condition report
09/17	GAO Review of Long Island Sound Restoration scientific consultant. Addressed nine questions relating to 20 relevant targets chosen for ecosystem health and restoration, focusing on current state, gains made, appropriateness of targets, and likelihood of management strategy success relative to current metrics. Served as external scientist with expertise in the areas of hypoxia and Long Island Sound circulation and dynamics.
01/16-04/17	BEMS-SEERS 2017 Spring joint meeting conference planning committee member.
06/13-05/15	Committee member, P.E.O. 2015 State Convention Planning Committee. P.E.O. is a philanthropic educational organization that supports and fundraises for women's education. The annual convention is planned by a local steering committee, planning involves organization, coordination of state board members and volunteers, and handling registration during the weekend of convention May 2015.

Leadership, Professional Growth, & Recognition

Professional Training &/or Certification

2022	Managing Internship Processes with Handshake (March 3)
2021	Shared Foundations and Courageous Conversations (February 9)
	SafeZone Level 1 (March 1)
	SafeZone Level 2 (March 16)
	Examining the Connection between Racial Justice, Curriculum and Teaching: Critical & Inclusive Pedagogy in STEM Classrooms (March 19)

- 2020 Search Team Training (November 29)
 Engaging your Students and Understanding their Performance in your Course (August 27)
 Using Video-based Learning with Echo360 to Support Mixed Teaching Modalities (August 25)
 Digital Learning Institute Lite (DLI Lite) (August 22)
 Faculty Mobile iPad Technology Training Course (August 17)
 Integration of Accessible Assignments and Activities into your Online, Hybrid and Flex Classes (August 10)
 ZOOM: The Basics (August 4)
 Communication and Collaboration Online (August 31)
 COVID-19 Public Health Practices (July 28)
 Core Moodle Tools for Faculty (July 23)
 OER Part II: Implementing and Promoting your Open Educational Resource Course to Students (OERs) (June 6)
 OER Part I: Integration of Open Educational Resources (OERs) into your Online, Hybrid and Traditional Classes (May 22)
 Best Practices for Digital Learning (May 15)
 University Finance and Budgeting 101 (March 2)
 Office 365: Introduction to Microsoft Teams (January 9)
- 2019 Search Team Training (January 14)
 The Completion Agenda (July 31)
- 2018 Engaging Students through Interactive PowerPoint Presentations (January 12)
 Using Moodle Tools for Peer Review (May 21)
 Group Work and Quality Feedback Made Simple with Microsoft OneNote Class Notebook (May 22)
 Using Turnitin to Prevent Plagiarism and Provide Feedback for Written Assignments (May 31)
 Peer Instruction for Active Learning (May 31)
 Working with Student Groups in your Online Class (June 15)
- 2015 Best Practices in Mentoring Undergraduate Research (April 13)
 Distance Learning Institute Certificate (DLIC) (May 13)
 Distance Learning Institute – Overview (May 11) **
 Getting Started in Distance Learning (May 11) **
 Making an Introductory Video for your Online Course (May 11)
 Organizing your Moodle Course to Improve Usability (May 11) *
 Applying the QAI. to your Distance Learning Course (May 11) **
 Creating a Distance Learning Syllabus (May 11) *
 Transitioning Face-to-Face Activities to an Online Environment (May 12)
 Course Design: The First Week of Your Online Class (May 12) *
 Tracking Online Class Attendance (May 12) *
 Course Design: Creating Learning Guides (May 12) *
 Building a Course Tour (May 13) *
 Communication Musts in an Online Classroom (May 13) *
 Moodle Communication Tools (May 13) *

**Courses required for DLIC

* Courses counting towards DLIC Toolbox sessions (minimum of 5 required)

- 2014 Effective Academic Advising: It's more than just picking out classes (Feb. 18, 2014)

- Sexual Harassment Training (April 2, 2014)
 Protection of Minors Training (April 8, 2014)
 Your Path to Promotion and Tenure (Apr. 11, 2014)
 AAA Coaching the Van Driver (July 29, 2014)
 Writing Circle 11 (Aug. 20 – Nov. 19, 2014)
- 2013 Classroom Motivation and Management (January 7)
 New faculty orientation (January 8)
 QEP Training/Orientation & Assessment (January 9)
 Grant Basics for New Faculty (February 19)
 Active Shooter Training (February 19)
 Introduction to Moodle (March 11)
 Your Path to Promotion and Tenure (April 10)
 Search Team Training (April 10)
 Focusing Your Academic Plan: Integrating Research, Teaching & Service (May 20)
 Building a Professional Research Portfolio (May 20)
 Student Hires: What you Need to Know (July 17)
 (Re)Constructing Your Syllabus (August 5)
 What to Do the First Day of Class (August 5)
 New Faculty Orientation (August 13-14)
 Classroom Motivation and Management (August 23)
 Professional Enhancement Grant Proposal Writing Circle (Aug. 21, 28, Sept. 4, 11, 18)
 Classroom Motivation and Management (August 23)
 First Week Recap, Things We Didn't Tell You at Orientation (August 27)
 New Faculty Orientation (August 13-14)
 Collegiality/Faculty Ombuds, Grievance and University Policies (September 10)
 Training for New Faculty Advisors (September 24)
 Cheating and Plagiarism/Academic Dishonesty: Preventing, Detecting and Dealing with It
 (November 7)

Awards & Honors

- 2018 Selection of teaching activity for addition to Exemplary Collection from Teaching Computation in the Sciences using MATLAB workshop in October 2018. [Selection criteria](#) and [teaching activity](#).
- 2014 Naval Research Laboratory's Alan Berman Research Publication Award for "Measurements of Form and Friction over a Rough Topographic Bank"
- 2011 Naval Research Laboratory Postdoctoral Fellowship
 Naval Research Laboratory Distinguished Postdoc Award
- 2010 Marine Sciences Pre-doctoral Award, University of Connecticut
- 2008 Doctoral Dissertation Fellowship, University of Connecticut
 Northeast Utilities Marine Science Award
- 2006 Marine Sciences Pre-doctoral Award, University of Connecticut
- 2005 Pre-doctoral fellowship, University of Connecticut
 S.Y. Feng Scholarship Fund Award

Membership in Professional Associations

- 2015-present SEERS (Southeastern Estuarine Research Society)
 2004-present American Geophysical Union

Professional Interests

Coastal observational physical oceanographer. Research interests range from very local to shelf-wide, including physical transport and environmental health of tidal creeks, mixing and transport in estuaries, the impact of river plumes on nearshore circulation and productivity, and the influence of mixing, stratification and circulation on temperate reef community structure.
