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EDUCATION

Ph.D., Marine Science, The University of Texas at Austin, 2014
M.S., Marine Science, University of South Alabama, 2008
B.A., Biology (Marine Science minor), Wittenberg University, 2005

RESEARCH AND PROFESSIONAL EXPERIENCE

2017–present Research Assistant Professor, Division of Coastal Sciences, School of Ocean Science and Technology, The University of Southern Mississippi
2017–present Deputy Director, Mississippi Based RESTORE Act Center of Excellence
2015–2016 Research Scientist, The Water Institute of the Gulf
2015–2016 Deputy Director, RESTORE Act Center of Excellence for Louisiana
2014–2016 Visiting Scientist, Nicholls State University
2014–2015 Postdoctoral Fellow, The Water Institute of the Gulf
2011–2012 Manager, Texas Statewide Seagrass Monitoring Program
2008–2009 Research Technician I, Duke University

PEER-REVIEWED PUBLICATIONS

- Google Scholar: <https://scholar.google.com/citations?user=IJ8MGzAAAAAJ&hl=en>
- (15) Tinoco AL, BT Furman, **KM Darnell**, BJ Peterson. *In press*. Submerged aquatic vegetation, topography and flow characteristics in the upper, tidal Hudson River: progress toward a predictive habitat model. *Aquatic Botany*
- (14) Jerabek AS, **KM Darnell**, C Pellerin, TJB Carruthers. *In press*. Use of marsh edge and submerged aquatic vegetation as habitat by fish and crustaceans in south Louisiana. *Southeastern Geographer*
- (13) Cho J, P Biber, **KM Darnell**, KH Dunton. *In press*. Seasonal and annual dynamics in seagrass beds of the Grand Bay National Estuarine Research Reserve, Mississippi. *Southeastern Geographer*
- (12) **Darnell KM**, TJB Carruthers, P Biber, IY Georgiou, TC Michot, RG Boustany. 2017. Spatial and temporal patterns in *Thalassia testudinum* leaf tissue nutrients at the Chandeleur Islands, Louisiana, USA. *Estuaries and Coasts*
[10.1007/s12237-017-0229-y](https://doi.org/10.1007/s12237-017-0229-y)
- (11) **Darnell KM**, KH Dunton. 2017. Plasticity in turtle grass (*Thalassia testudinum*) flower production in response to porewater nitrogen availability. *Aquatic Botany* 138: 100-106
<http://dx.doi.org/10.1016/j.aquabot.2017.01.007>

- (10) **Darnell KM**, KH Dunton. 2016. Reproductive phenology of the subtropical seagrasses *Thalassia testudinum* (turtle grass) and *Halodule wrightii* (shoal grass) in the northwest Gulf of Mexico. *Botanica Marina* 59: 473-483
[10.1515/bot-2016-0080](https://doi.org/10.1515/bot-2016-0080)
- (9) **Darnell KM**, DM Booth, EW Koch, KH Dunton. 2015. The interactive effects of water flow and reproductive strategies on seed and seedling dispersal along the substrate in two subtropical seagrass species. *Journal of Experimental Marine Biology and Ecology* 471: 30-40
<http://www.sciencedirect.com/science/article/pii/S0022098115001240>
- (8) **Darnell KM**, KH Dunton. 2015. Consumption of turtle grass seedlings by crabs in the western Gulf of Mexico. *Marine Ecology Progress Series* 520: 153-163
<http://www.int-res.com/abstracts/meps/v520/p153-163/>
- (7) Steele L, **KM Darnell**, J Cebrian, JL Sanchez-Lizaso. 2014. *Sarpa salpa* herbivory on shallow reaches of *Posidonia oceanica* beds. *Animal Biodiversity and Conservation* 37.1: 49-57
<http://www.raco.cat/index.php/ABC/article/view/278390>
- (6) **Darnell KM**, KL Heck Jr. 2013. Species-specific effects of prior grazing on the palatability of turtle grass. *Journal of Experimental Marine Biology and Ecology* 440: 225–232
<http://www.sciencedirect.com/science/article/pii/S0022098112004248>
- (5) Osterberg JS, **KM Darnell**, TM Blickley, JA Romano, D Rittschof. 2012. Acute toxicity and sublethal effects of common pesticides in post-larval and juvenile blue crabs, *Callinectes sapidus*. *Journal of Experimental Marine Biology and Ecology* 424-425: 5–14
<http://www.sciencedirect.com/science/article/pii/S0022098112001694>
- (4) Rittschof D, MZ Darnell, **KM Darnell**, M Goldman, M Ogburn, RE McDowell. 2011. Estimating relative abundance of the female blue crab spawning stock in North Carolina. In: Kruse, GH, GL Eckert, RJ For, RN Lipcius, B Sainte-Marie, DL Stram, D Woodby (eds) *Biology and Management of Exploited Crab Populations Under Climate Change*. Alaska Sea Grant College Program, Fairbanks
<https://seagrant.uaf.edu/bookstore/pubs/item.php?id=11471>
- (3) Darnell MZ, **KM Darnell**, RE McDowell, D Rittschof. 2010. Post-capture survival and future reproductive potential of ovigerous blue crabs caught in the central North Carolina pot fishery. *Transactions of the American Fisheries Society* 139: 1677–1687
<http://www.tandfonline.com/doi/abs/10.1577/T10-034.1>
- (2) Darnell MZ, D Rittschof, **KM Darnell**, RE McDowell. 2009. Lifetime reproductive potential of female blue crabs, *Callinectes sapidus*, in North Carolina. *Marine Ecology Progress Series* 394: 153–163
<http://www.int-res.com/articles/meps2009/394/m394p153.pdf>
- (1) **McKay KM**, KL Heck Jr. 2008. Presence of the Jonah Crab, *Cancer borealis*, significantly reduces kelp consumption by the green sea urchin, *Strongylocentrotus droebachiensis*. *Marine Ecology Progress Series* 356: 295–298
<http://www.int-res.com/articles/meps2008/356/m356p295.pdf>

MANUSCRIPTS IN REVIEW

Darnell MZ, **KM Darnell**. *In review*. Temperature-driven geographic variation in thermal tolerance and morphology in a fiddler crab sister-species pair

OTHER PUBLICATIONS

Darnell KM, DJ Reed, CG Groat, eds. 2016. Research Strategy. RESTORE Act Center of Excellence for Louisiana. Baton Rouge, LA

Darnell KM, DJ Reed, CG Groat. 2016. Standard Operating Procedures. RESTORE Act Center of Excellence for Louisiana. Baton Rouge, LA

Darnell KM, KH Dunton. 2010. Baseline studies of seagrass condition and water quality in East Flats, Corpus Christi Bay: summer and fall 2010. Texas Parks and Wildlife Department Biological Report. Contract #10-049-000-3745

RESEARCH GRANTS

Gulf-wide assessment of habitat use and habitat-specific production estimates of nekton in turtlegrass (*Thalassia testudinum*), NOAA RESTORE Science Program, 6/1/2017–5/31/2020, PI with M.Z. Darnell, D.L. Smee, C.W. Martin, M.O. Hall, \$992,136

Linking blue crab abundance, growth and mortality to marsh fragmentation and submerged aquatic vegetation cover, NOAA, 9/1/2015–8/31/2017 Co-PI with T.J.B. Carruthers, M.Z. Darnell, 2015–2017, \$283,578

Assessing reproductive dynamics of four dominant seagrass species in the Mission Aransas and Grand Bay National Estuarine Research Reserves for development of effective conservation and management strategies. National Estuarine Research Reserve (NERR) Graduate Research Fellowship, NOAA, PI with K. Dunton, 9/1/2011–8/31/2014, \$60,000

GRANT PROPOSALS IN REVIEW

Determination and quality of nursery habitat for fish populations, submitted to Mississippi Department of Marine Resources Tidelands Trust Fund Program, PI, \$123,382

Optimal elevations for natural and nursery-grown marsh plant restoration, submitted to Mississippi Department of Marine Resources Tidelands Trust Fund Program, PI, \$101,616

COMPETITIVE FELLOWSHIPS

Science Policy Fellowship, National Academy of Sciences Gulf Research Program, 2015–2016 (declined to continue Postdoctoral Fellow position at The Water Institute of the Gulf)

E.J. Lund Research Fellowship, The University of Texas at Austin, 2012–2014, \$46,000

GK-12 Teaching Fellowship, National Science Foundation, 2010–2011, \$37,000

PROFESSIONAL AWARDS

First Place Best Poster Presentation and Third Place Best Abstract, Meeting of the Louisiana Chapter of the American Fisheries Society, 2014

Scholar Award, P.E.O. International, 2013, \$15,000

Second Place Best Oral Presentation, Texas Bays and Estuaries Meeting, 2011

Dean's Excellence Award, The University of Texas at Austin, 2009, \$3,500

Nelson Achievement Award, Dauphin Island Sea Lab, 2008, \$4,000

TEACHING EXPERIENCE

Instructor, Marine Invertebrate Ecology, Louisiana Universities Marine Consortium, 2016

Guest Lecturer and Lab Instructor, Marine Biology, Nicholls State University, 2015–2016

Guest Lecturer, Scientific Methods and Research Objectives (2013), Marine Ecosystem Dynamics (2012), Field Course in Marine Science (2011–2013), The University of Texas at Austin

Teaching Assistant, Marine Botany Field Course in Akumal, Mexico (2011), Genetics (2010), Introduction to Biology (2009), The University of Texas at Austin

Teaching Assistant, Marine Ecology, Duke University, 2009

Teaching Assistant, National Science Foundation Research Experience for Undergraduates (NSSF REU) Program, Dauphin Island Sea Lab, 2006–2008

GRADUATE COMMITTEES

Lennah Shakeri, M.S. student, The University of Southern Mississippi (2015–), Linking blue crab abundance, growth and mortality to marsh fragmentation and submerged aquatic vegetation cover

UNDERGRADUATE AND HIGH SCHOOL STUDENTS ADVISED

Connor Pellerin (high school student), Episcopal Independent Private School of Baton Rouge, Habitat use of submerged aquatic vegetation and marsh edge by fish and crustaceans in south Louisiana, 2016 (co-Mentor, manuscript in review)

Tyrone Whitmore (high school student), Louisiana State University Chapter of EnvironMentors, Habitat preferences of blue crabs, 2015-2016 (co-Mentor)

Jose Velasquez, NOAA Northern Gulf Institute Diversity Internship, Infauna diversity in brackish water submerged aquatic vegetation in Louisiana, 2015 (co-Mentor)

Rachel Capps, The University of Texas at Austin, Shoal grass seed reserves across Texas, 2013

Victoria Congdon, The University of Texas at Austin, Quantifying water flow along a depth gradient in seagrass beds within Redfish and Aransas Bays, Texas, 2012–2013

Jessica Casillas and Jimmy McMillan, The University of Texas at Austin, Anthropogenic effects on seagrass fruiting frequency in Akumal Bay, Puerto Morelos in the Caribbean Sea, 2011–2012

Anna Percy, The University of Texas at Austin, Shoal grass seed dispersal in Texas, 2010

PROFESSIONAL SERVICE

Session Organizer, “Abundance, distribution and ecosystem functions of submerged aquatic vegetation in coastal Louisiana”, Louisiana State of the Coast Conference, 2016

Session Organizer and Convener, “Understanding Gulf Coast estuarine and deltaic benthic ecology for restoration”, Coastal and Estuarine Research Federation, Portland, OR, 2015

Session Moderator, Benthic Ecology Meeting, Quebec City, Canada, 2015

Invited Participant: Barataria-Terrebonne National Estuary Program Water Quality Comprehensive Conservation and Management Plan Revision Committee (2016); Building

Community Resilience Through Restoration Technical Workshop, Baton Rouge, LA (2015);
Our Global Estuary Workshop, Harbor Branch Oceanographic Institute (2013)

Invited Judge, Dauphin Island Sea Lab Graduate Student Symposium (2015), Nicholls State
University Research Week (2015, 2016)

Volunteer: Mangrove Monitoring Program (2013), Larval Blue Crab Monitoring Program
(2012–2013) Mission-Aransas NERR

Proposal Reviewer: Coastal Protection and Restoration Authority (CPRA) Applied Research
Program

Journal Reviewer: Aquatic Biology (1), Bioinvasions Records (1), Biological Conservation (1),
Estuaries and Coasts (6), International Journal of Tropical Biology and Conservation (1),
Journal of Animal Ecology (1), Journal of Experimental Marine Biology and Ecology (2),
Marine Ecology Progress Series (10), Restoration Ecology (1)

Memberships: Coastal and Estuarine Federation, Gulf Estuarine Research Society, World
Seagrass Association, Society for Ecological Restoration (Southeast Chapter)

LEADERSHIP EXPERIENCE

Co-Organizer, Coastal Research Priorities Town Hall Meeting, hosted with Louisiana Sea Grant,
2016

Fundraising Chair, Gulf Estuarine Research Society-Society of Wetland Scientists Joint Meeting,
2016 (raised over \$5,000 to support student travel and defray meeting expenses)

Member-at-Large (elected position), Gulf Estuarine Research Society, 2015–present

Meeting Convener, Texas Bays and Estuaries Meeting, Port Aransas, TX, 2012

Faculty Liaison and Student Representative: Graduate Student Association, University of Texas
Marine Science Institute (2011–2012); Graduate Student Organization, Dauphin Island Sea
Lab (2005–2007)

OUTREACH

Contributor, “Bees of the Sea: Tiny Crustaceans Pollinate Underwater Plants”, New Scientist
Magazine Daily News, December 2, 2016

Panel Member, Graduate Advice Panel, Gulf Estuarine Research Society-Society of Wetland
Scientists Meeting, 2016

Exhibitor: Louisiana STEM Expo, Kenilworth Science and Technology Charter School (2015);
Louisiana Earth Day (2015); Louisiana SeaGrant Ocean Commotion, Louisiana State
University (2014, 2016)

Guest Instructor: Flour Bluff ISD Working, Achieving, Validating, and Experiencing Science
(WAVES) Program (2012), Dauphin Island Sea Lab Discovery Hall K-12 Program (2006–
2007)

Judge: Ocean Springs Upper Elementary Science Fair (2017); National Ocean Sciences Bowl
Loggerhead Challenge (2013); Flour Bluff ISD Science Fair (2010–2011); Port Aransas ISD
Science Fair (2010–2011)

INVITED PRESENTATIONS

- Lunch and Learn Series, The Water Institute of the Gulf, Baton Rouge, LA, November 15, 2016: Status of the RESTORE Act Center of Excellence for Louisiana
- Department of Renewable Natural Resources, Louisiana State University, Baton Rouge, LA, December 2, 2015: Understanding interactions between submerged aquatic vegetation and animals in the Gulf of Mexico
- Biology Department, Nicholls State University, Thibodaux, LA, November 2, 2015: Sexy science: Understanding the reproductive ecology of sub-tropical seagrasses
- Department of Oceanography and Coastal Sciences, Louisiana State University, Baton Rouge, LA, October 6, 2014: Understanding the reproductive ecology of sub-tropical seagrasses
- P.E.O. International, Fredericksburg, TX, January 16, 2014: Seagrass reproductive ecology
- The Aquarium at Rockport Harbor, Rockport, TX, June 6, 2013: Sex in the seagrass bed: Understanding seagrass sexual reproduction
- Texas Seagrass Monitoring Workgroup, Corpus Christi, TX, May 8, 2013: Factors influencing seagrass reproductive success in subtropical systems
- Whooping Crane Festival, Port Aransas, TX, February 22, 2013: Ducks, fish and shrimp, and why we care about the underwater plants they share
- Bay Education Center, Rockport, TX, February 22, 2012: Seagrasses along the Texas coast

CONTRIBUTED PRESENTATIONS (past five years, * indicates undergraduate co-author)

- Darnell KM, Carruthers TJB. Use of floating and submerged aquatic vegetation as habitat by nekton in brackish water systems. December 14, 2016. Restore America's Estuaries Summit. New Orleans, LA. Oral.
- Darnell KM, Carruthers TJB. Nekton use of floating and submerged aquatic vegetation as habitat in brackish water systems. November 2, 2016. Gulf Estuarine Research Society Meeting, Pensacola Beach, FL. Oral.
- Darnell KM, Carruthers TJB, Biber P, Georgiou IY, Michot TC, Boustany R, M La Peyre, K DeMarco, E Hillmann. June 1, 2016. Nutrient status of submerged aquatic vegetation in coastal Louisiana. State of the Coast Conference, New Orleans, LA. Oral.
- Darnell KM, Carruthers TJB, Hijuelos AC, Moss LC. March 18, 2016. Assessing habitat and landscape complexity in coastal systems and implications for nearshore species. Benthic Ecology Meeting, Portland, ME. Oral.
- Darnell KM. February 2, 2016. RESTORE Act Center of Excellence for Louisiana. Gulf of Mexico Oil Spill and Ecosystem Science Conference. Tampa, FL. Poster.
- Darnell KM, Carruthers TJB. November 12, 2015. Examining the use of submerged and floating aquatic vegetation as habitat for juvenile blue crabs. Coastal and Estuarine Research Federation, Portland, OR. Oral.
- Darnell KM, Carruthers TJB. May 29, 2015. The influence of floating and submerged vegetation habitat complexity on nekton abundance and diversity in coastal Louisiana. Louisiana Chapter of the American Fisheries Society Annual Meeting. Baton Rouge, LA. Poster.

- Darnell KM, Baustian MM, Hijuelos AC, Moss LC, Carruthers TJB. March 5, 2015. The Water Institute of the Gulf: A new mechanism for partnerships to support coastal management. Benthic Ecology Meeting. Quebec City, Canada. Poster.
- Darnell KM, Baustian MM, Hijuelos AC, Moss LC, Carruthers TJB. October 30, 2014. Data to decisions: supporting effective coastal management. Gulf Estuarine Research Society Meeting. Port Aransas, TX. Poster.
- Darnell KM, Dunton KH. May 29, 2014. Plasticity in turtle grass flower production as a response to pore-water nutrient availability. Louisiana Chapter of the American Fisheries Society Annual Meeting. Thibodaux, LA. Poster.
- Darnell KM, Dunton KH. April 23, 2014. From water flow to nutrient loading: understanding factors that influence seagrass reproduction. Texas Bays and Estuaries Meeting, Port Aransas, TX. Oral.
- Darnell KM, Dunton KH. March 21, 2014. Water flow and seagrass seed dispersal: comparing seed movement for species with different reproductive strategies. Benthic Ecology Meeting, Jacksonville, FL. Oral.
- Darnell KM, Dunton KH. February 24, 2014. The influence of nutrient availability on turtle grass reproductive status. Ocean Sciences Meeting, Honolulu, HI. Oral.
- Congdon VM*, Darnell KM, Dunton KH. October 4, 2013. Effect of turtle grass leaf canopy on water flow in the Mission Aransas National Estuarine Research Reserve. Society for the Advancement of Chicanos and Native Americans in Science. San Antonio, TX. Poster.
- Darnell KM, Dunton KH. April 25, 2013. Stress-induced flowering in turtle grass, *Thalassia testudinum*. Texas Bays and Estuaries Meeting, Port Aransas, TX. Oral.
- Darnell KM, Dunton KH. March 21, 2013. The influence of nutrient availability on the turtle grass reproductive status. 42nd Benthic Ecology Meeting, Savannah, GA. Oral.
- Darnell KM, Dunton KH. November 9, 2012. The influence of nutrients on the reproductive status of turtle grass. Gulf Estuarine Research Society Meeting, Dauphin Island, AL. Oral.
- McMillan JM*, Darnell KM, Dunton KH. April 13, 2012. Investigating anthropogenic effects on seagrass fruiting frequency in Akumal Bay, Puerto Morelos off the Yucatan Peninsula in the Caribbean Sea. University of Texas Undergraduate Research Forum, Austin, TX. Poster.