

John M. Carroll

Curriculum Vitae

Assistant Professor
Department of Biology
Georgia Southern University, Statesboro, GA 30460
Phone: (912) 478 4587
Email: jcarroll@georgiasouthern.com

RESEARCH INTERESTS:

Estuarine community ecology; chemical ecology; landscape ecology; restoration ecology; trophic interactions; invasive species; larval settlement; oyster reef ecology

EDUCATION:

School of Marine and Atmospheric Sciences, Stony Brook University, Stony Brook, NY 11794
Ph.D. in Marine and Atmospheric Science, August 2012. *Advisor:* Dr. Bradley J Peterson

Southampton College, Long Island University, Southampton, NY, 11968
B.S. *magna cum laude*, in Marine Science, biology concentration, May 2004

PROFESSIONAL EXPERIENCE:

Assistant Professor, Department of Biology, Georgia Southern University (Current)

Post-Doctoral Research Associate, Department of Biology and Marine Biology, UNCW
(September 2012-August 2015) Post-doctoral associate to Dr. Chris Finelli

Project Research Manager, School of Marine and Atmospheric Sciences, Southampton, NY
(April 2011-August 2012) Shinnecock Bay Restoration Project

Communications Assistant, School of Marine and Atmospheric Sciences, Stony Brook, NY
(October 2010-August 2012) Assistant to Associate Director William Wise

Research Assistant, School of Marine and Atmospheric Sciences, Southampton, NY
(September 2009-February 2011) Effects of multiple stressors on seagrass

Teaching Assistant, School of Marine and Atmospheric Sciences, Southampton, NY
(Spring 2009) Course- Biological Oceanography

Teaching Practicum, School of Marine and Atmospheric Sciences, Southampton, NY
(Fall 2008) Course- Experimental Marine Biology

Research Assistant, Suffolk County, Southold, NY
(October 2006-August 2008) Bay Scallop Restoration Project

Research Assistant, School of Marine and Atmospheric Sciences, Southampton, NY
(October 2006-August 2007) Effects of Habitat on Survival of Free-Planted Bay Scallops

Field Technician, Suffolk County and CW Post of Long Island University
(May 2006-May 2007) Bay Scallop Spawner Sanctuary Evaluation Study, NY State Wildlife Program

Field Technician, United States Geological Survey, Miami, FL
(January 2005-May 2006) South Florida Seagrass, Fish and Invertebrate Monitoring and Assessment Project

Research Assistant, Southampton College of Long Island University, Southampton, NY
(Summer 2004) Influence of Ocean Exchange on Nutrients, Plankton Assemblages, Submerged Aquatic Vegetation and Shellfish within Long Island's South Shore Estuaries

Marine Station Technician, Southampton College of Long Island University, Southampton, NY
(May 2003-September 2004)

NOAA Cooperative Marine Education and Research Intern, NMFS, Sandy Hook, NJ
(Summer 2002) Fish Condition in the Hudson River Estuary

HONORS AND AWARDS

- 2011 Invited speaker, Provost Graduate Student Lecture Series, Stony Brook University
- 2009 Student Oral Presentation Award, 20th Coastal and Estuarine Research Federation Meeting
- 2008 Gordon Gunter Award for Best Student Poster, National Shellfish Association Meeting
- 2006 Graduate Research Fellowship, Stony Brook University
- 2006 Presidential Award, Stony Brook University
- 2004 Evan Frankel Foundation Scholarship, Southampton College of Long Island University
- 2002 NOAA Cooperative Marine Education and Research Internship, NMFS

FUNDED GRANTS

- 2917 Georgia Sea Grant (co-PI with Jacque Kelly, Department of Geology and Geography, GSU) Is groundwater a potential driver of oyster populations within Georgia creeks? \$84,122/2yr.
- 2016 Georgia Southern University Faculty Research Award Patterns in oyster populations along the banks of Oyster Creek: Is groundwater discharge a driver? \$9500
- 2015 NY DEC Water Quality Improvement Projects (co-PI with B. Peterson) Great South Bay Shellfish Project. \$241,396/2 yr. GSU subcontract \$70,771/2 yr.
- 2013 NC Sea Grant Fishery Resource Grant (co-PI with C. Finelli) Predicting and controlling recruitment of the shell-boring sponge, *Cliona celata*. \$20,000/2 yr.

PENDING GRANTS

National Academy of Science Gulf Research Program Mussel Power! Can mussels increase marsh resilience and restoration? \$1,233,157/3yr. Subcontracts – C. Martin, UF, B. Roberts LUMCON, & L. Smee, TAMUCC.

PUBLICATIONS (* denotes student authors)

Watts, J.C.*, **J.M. Carroll**, C.M. Finelli, D. Munroe. *In review*. Is there an interactive relationship between oyster pests and parasites? An examination of the potential relationship between boring sponges and pea crabs, and their effects on eastern oyster condition. *Estuaries and Coasts*.

Stubler, A.D., H. Stoker*, H.J. Styron, **J.M. Carroll**, C.M. Finelli. *In press*. Reproductive and recruitment dynamics of clionaid sponges on oyster reefs in North Carolina. *Invertebrate Biology*. DOI: 10.1111/ivb.12188

Carroll, J.M., K.A.O'Shaughnessy*, G.A. Diedrich*, C.M. Finelli. 2015. Are eastern oysters being bored to death by *Cliona celata*? A comprehensive examination of oyster condition, growth and survival. *Diseases of Aquatic Organisms*. 117:31-44

Tettelbach S.T., B.J. Peterson, **J.M. Carroll**, B.T. Furman, S.W.T. Hughes, J. Havelin, J.R. Europe, D.M. Bonal, A.J. Weinstock, C.F. Smith. 2015. Aspiring to an altered stable state: rebuilding of bay scallop populations and fisheries following intensive restoration. *Marine Ecology Progress Series* 529:121-136

- Carroll, J.M.,** J.P. Marion*, C.M. Finelli. 2015. A field test on the effects of mesopredators and landscape setting on juvenile oyster, *Crassostrea virginica*, consumption on intertidal reefs. *Marine Biology*. 162:993-1003.
- Carroll, J.M.,** K. Riddle*, K.E. Woods*, C.M. Finelli. 2015. Recruitment of the eastern oyster, *Crassostrea virginica*, in response to settlement cues and predation in North Carolina. *Journal of Experimental Marine Biology and Ecology*. 463:1-7
- Carroll, J.M.,** L.J. Jackson*, B.J. Peterson. 2014. The effect of increasing habitat complexity on bay scallop survival in the presence of different decapod crustacean predators. *Estuaries and Coasts*. Doi: 10.1007/s12237-014-9902-6
- Carroll, J.M.,** C.M. Finelli. 2014. Impacts of the ectoparasitic snail *Boonea impressa* on post-set juvenile oysters. *Journal of Molluscan Research*. 81:161-163
- Peterson, B.J., A.M. Fournier, B.T. Furman, **J.M. Carroll**. 2014. *Hemigrapsus sanguineus* in Long Island salt marshes: experimental evaluation of the interactions between an invasive crab and resident ecosystem engineers. *PeerJ*: 2:e472; DOI 10.7717/peerj.472
- Tettelbach, S.T., K. Tetrault, **J. Carroll**. 2014. Efficacy of Netminder® Silicone Release Coating for Biofouling Reduction in Bay Scallop Grow-out and Comparative Effects on Scallop Survival, Growth and Reproduction. *Aquaculture Research* 45: 234-242
- Peterson, B.J., E. Bricker, S.J. Brisbin, B.T. Furman, A.D. Stabler, **J.M. Carroll**, D.L. Berry, C.J. Gobler, A. Calladine, M. Waycott. 2013. Genetic diversity and gene flow in *Zostera marina* populations surrounding Long Island, New York, USA: No evidence of inbreeding, genetic degradation or population isolation. *Aquatic Botany* 110: 61-66
- Carroll, J.M.** and B.J. Peterson. 2013. Ecological trade-offs in seascape ecology: bay scallop survival and growth across a seagrass seascape. *Landscape Ecology* 28: 1401-1413
- Carroll, J.M.** and B.J. Peterson. 2013. Comparisons in demographic rates of bay scallops in eelgrass and the introduced alga, *Codium fragile*, in New York. *Marine Biology* 160:1451-1463
- Tettelbach, S.T., B.J. Peterson, **J.M. Carroll**, S.W.T. Hughes, D. Bonal, A. Weinstock, J.R. Europe, B.T. Furman, C.F. Smith. 2013. Priming the larval pump: Resurgence of bay scallop recruitment after initiation of intensive restoration efforts. *Marine Ecology Progress Series* 478: 153-172
- Carroll, J.M.,** B.T. Furman, S.T. Tettelbach and B.J. Peterson. 2012. Balancing the edge effects budget: Bay scallop settlement and loss along a seagrass edge. *Ecology* 93:1637-1647
- Tettelbach, S.T., D. Barnes, J. Aldred, G. Rivara, D. Bonal, A. Weinstock, C. Fitzsimons-Diaz, J. Theil, A. Stark, M.C. Cammorata, K. Wejnert, R. Ames, **J. Carroll**. 2011. Utility of high-density plantings in bay scallop, *Argopecten irradians irradians*, restoration. *Aquaculture International* 19:715-739
- Carroll, J.M.,** B.J. Peterson, D. Bonal, A. Weinstock, C.F. Smith, S.T. Tettelbach. 2010. Comparative survival of bay scallops in eelgrass and the introduced alga, *Codium fragile*, in a New York estuary. *Marine Biology* 157:249-259
- Carroll, J.,** C.J. Gobler, B.J. Peterson. 2008. Resource-restricted growth of eelgrass in New York estuaries: light limitation, and alleviation of nutrient stress by hard clams. *Marine Ecology Progress Series* 369:51-62

PUBLICATIONS (other)

Carroll, J.M., S.T. Tettelbach, B.J. Peterson. 2011 Recruitment of bay scallops to artificial seagrass units after high density free planting to a spawner sanctuary in Hallock Bay, NY. Proceedings of the 103rd Annual National Shellfish Association Meeting. *Journal of Shellfish Research* 30:492

Carroll, J.M., B.J. Peterson, C. Smith, D. Bonal, A. Weisntock, S.T. Tettelbach. 2008 A bay scallop's brave new world: Can the introduced *Codium fragile* act as an eelgrass surrogate? Conference Proceedings of the 100th Annual National Shellfish Association Meeting. *Journal of Shellfish Research* 27:995

Smith, C.F., S.T. Tettelbach, B.J. Peterson, **J.M. Carroll**. 2008 Effects of habitat on survival of free-planted bay scallops. Final Report prepared for the USEPA/NHEERL, Narragansett, RI

PUBLICATIONS IN PREPARATION (* denotes student authors)

Carroll, J.M., A.D. Stubler, B.J. Peterson, C.M. Finelli. Do seagrass herbivory patterns reflect the efficacy of a tropical marine protected area? A tale of two seagrass studies. *In prep for Marine Ecology Progress Series*

Warren, J.D., **J.M. Carroll**, A.D. Stubler, B.J. Peterson. Recovery and resiliency of Discovery Bay, Jamaica coral reef benthic community. *In preparation for Coral Reefs*

Carroll, J.M., L.J. Jackson, B.T. Furman, B.J. Peterson. Propagule risk in a marine foundation species: seascape effects on *Zostera marina* seed predation. *In preparation for ICES Journal of Marine Science*.

INVITED PRESENTATIONS:

2017 Departmental Seminar, Armstrong State University Department of Biology, Savannah, GA

2016 Departmental Seminar, SSU Department of Marine and Environmental Science, Savannah, GA

2013 Departmental Seminar, UNCW Department of Biology and Marine Biology, Wilmington, NC

2012 Guest Seminar, NC State Center for Marine Science and Technology, Moorehead City, NC

2011 Long Island Marine Habitats, Stony Brook Semester by the Sea Program, Southampton, NY

2011 Provost Graduate Student Lecture Series, Stony Brook University, Stony Brook, NY

CONTRIBUTED PRESENTATIONS AT NATIONAL AND INTERNATIONAL MEETINGS

2017 **Carroll, J.M.**, J.C. Watts, C.M. Finelli, D. Munroe. Not a fun threesome: the prevalence, impact and interaction of boring sponges and pea crabs on oysters. 46th Annual Benthic Ecology Meeting, Myrtle Beach, SC.

2017 Stubler, A.D., **J.M. Carroll**, C.M. Finelli. Does eutrophication impact sponge bioerosion? Nope. 46th Annual Benthic Ecology Meeting, Myrtle Beach, SC.

2017 Kleinas, N.L.*, B.J. Peterson, S.T. Tettelbach, **J.M. Carroll**. Restoration by transplantation: using a filter-feeding gastropod *Crepidula fornicata* to rehabilitate Great South Bay, New York: Preliminary surveys. 46th Annual Benthic Ecology Meeting, Myrtle Beach, SC.

2017 Mckenna, A.L.*, **J.M. Carroll**, J.L. Kelly. Oyster recruitment and growth in areas of high and low groundwater discharge in Oyster Creek, Georgia. 46th Annual Benthic Ecology Meeting, Myrtle Beach, SC.

- 2017 Carlton, J.L.*, L.E. Williams*, **J.M. Carroll**, S. Tettelbach, B. Peterson, A.K. Volety, E.S. Darrow. Bay scallops: the high resolution canary in the highly-fertilized coal mine. 46th Annual Benthic Ecology Meeting, Myrtle Beach, SC.
- 2016 Tettelbach, S.T., B.J. Peterson, **J.M. Carroll**, et al. Restoration of bay scallop populations and fisheries in the Peconic Bays, New York. 45th Annual benthic Ecology Meeting, Portland ME
- 2016 Warren, J.D., B.J. Peterson, **J.M. Carroll**, A.D. Stubler. Recovery, Resiliency and Reggae: Is the Discovery Bay, Jamaica coral reef ecosystem recovered and able to withstand natural perturbations? 45th Annual Benthic Ecology Meeting, Portland, ME
- 2015 **Carroll, J.M.**, S.T. Tettelbach, B.J. Peterson, B.T. Furman, C. Smith. Millions strong and growing: building scallop populations and fisheries following intense restoration. 23rd Coastal and Estuarine Research Federation Meeting, Portland, OR
- 2015 Watts, J.C.*, J. Guis, **J.M. Carroll**, D. Munroe, C.M. Finelli. Not a Fun Threesome: the prevalence and impacts of two oyster pests on their host. 23rd Coastal and Estuarine Research Federation Meeting, Portland, OR
- 2015 **Carroll, J.M.**, C.M. Finelli, A.D. Stubler, B.J. Peterson. Is the grass always greener on the other side? A tale of two herbivory studies from Discovery Bay, Jamaica. 44th Annual Benthic Ecology Meeting, Quebec City, Quebec
- 2014 **Carroll, J.M.**, J.P. Marion* and C.M. Finelli. Does size matter: Are mesopredators controlling oyster populations in southeast North Carolina estuaries? 43rd Annual Benthic Ecology Meeting, Jacksonville, FL
- 2013 **Carroll, J.M.**, J. Marion* and C.M. Finelli. The importance of mesopredators on juvenile oyster predation: a field test. 22nd Coastal and Estuarine Research Federation Meeting, San Diego, CA
- 2013 **Carroll, J.M.** and B.J. Peterson. Emergent effects of multiple predators on shared prey: can there be alternative views on predator interference? 42nd Annual Benthic Ecology Meeting, Savannah, GA
- 2012 **Carroll, J.M.**, and B.J. Peterson. Balancing the edge effects budget: implications for restoration. United States Chapter of the International Association of Landscape Ecology Meeting, Newport, RI
- 2012 **Carroll, J.M.** and B.J. Peterson. Are multiple predator effects on a shared prey influenced by habitat complexity? 104th National Shellfish Association Meeting, Seattle, WA
- 2012 **Carroll, J.M.**, L.J. Jackson*, and B.J. Peterson. The effects of habitat and predation on bay scallops in New York. 41st Benthic Ecology Meeting, Norfolk, VA.
- 2011 **Carroll J.M.**, B.J. Peterson. Are seagrass edges ecological traps for post-set bay scallops? Implications for restoration. 21st Coastal and Estuarine Research Federation Meeting, Daytona Beach, FL.
- 2011 **Carroll J.M.**, B.J. Peterson. Balancing the edge effects budget: Bay scallop settlement and recruitment along a seagrass edge. Northeast Estuarine Research Society Spring Meeting, Port Jefferson, NY
- 2011 **Carroll J.M.**, S.T. Tettelbach, B.J. Peterson. Bay scallop recruitment to artificial seagrass after high density free planting in Hallock Bay, NY. 103rd Annual Meeting of the National Shellfish Association, Baltimore, MD
- 2011 **Carroll J.M.**, B.J. Peterson. The *Cochlodinium* conundrum – What to do when field observations don't match lab results. 40th Annual Benthic Ecology Meeting, Mobile, AL
- 2010 **Carroll J.M.**, S.T. Tettelbach, B.J. Peterson. Recruitment of bay scallops, *Argopecten irradians*, to artificial seagrass near a spawner sanctuary. 39th Annual Benthic Ecology Meeting, Wilmington, NC
- 2009 **Carroll J.M.**, S.T. Tettelbach, B.J. Peterson. Can the introduced macroalgae *Codium fragile* serve as a suitable habitat for the native bay scallop *Argopecten irradians*. 20th Coastal and Estuarine Research Federation Meeting, Portland, OR

(2nd Best Student Oral Presentation)

- 2009 **Carroll J.M.**, B.J. Peterson. Can the introduced *Codium fragile* serve as a predation refuge for the native bay scallop, *Argopecten irradians*? 38th Annual Benthic Ecology Meeting, Corpus Christi, TX
- 2008 **Carroll, J.M.**, C.J. Gobler, B.J. Peterson. Resource limitation of eelgrass in New York estuaries: Nutrient stress alleviation by hard clams. 37th Annual Benthic Ecology Meeting, Providence, RI
- 2008 **Carroll, J.M.**, B.J. Peterson, S.T. Tettelbach. A bay scallop's brave new world: Can the introduced *Codium fragile* act as an eelgrass surrogate? 100th Annual Meeting of the National Shellfish Association, Providence, RI
- (Gordon Gunter best student poster)**
- 2007 **Carroll, J.M.**, B.J. Peterson, C.J. Gobler, M. Weiss, P. Curran. Can hard clams (*Mercenaria mercenaria*) ameliorate anthropogenic light stress for eelgrass (*Zostera marina*) by increased nutrient availability? 36th Annual Benthic Ecology Meeting, Atlanta, GA

PRESENTATIONS AT LOCAL MEETINGS

- 2011 **Carroll, J.M.**, R. Kulp, P. Miller and B.J. Peterson. Ecosystem services of restored Hudson River oyster reefs. Hudson River Foundation Oyster Restoration Research Project sup-group meeting, New York, NY
- 2011 **Carroll J.M.**, B.J. Peterson, S.T. Tettelbach. Scallop Restoration Works: Millions strong and growing! Stony Brook Southampton Coastal Estuarine Research Program Annual Symposium, Southampton, NY
- 2011 **Carroll J.M.**, S.T. Tettelbach, B.J. Peterson. Recruitment of bay scallops to artificial seagrass units after high density free planting to a spawner sanctuary in Hallock Bay, NY. 2nd Annual School of Marine and Atmospheric Sciences Graduate Student Symposium, Stony Brook, NY
- 2010 **Carroll J.M.**, B.J. Peterson. Recruitment of benthic bivalves and crabs in Shinnecock Bay, NY. New York Marine Science Consortium, Oakdale, NY
- 2010 **Carroll J.M.**, S.T. Tettelbach, B.J. Peterson. Recruitment of bay scallops to artificial seagrass near a spawner sanctuary. Stony Brook Southampton Coastal Estuarine Research Program Annual Symposium, Southampton, NY
- 2009 **Carroll J.M.**, S.T. Tettelbach, B.J. Peterson. A bay scallop's brave new world: Can an introduced algae serve as a predation refuge for the bay scallop? Stony Brook Southampton Coastal Estuarine Research Program Annual Symposium, Southampton, NY

TEACHING AND EDUCATION

Mentored Graduate Students

Jessica Watts, Nicole Kleinas, Mattie Whitesell (Georgia Southern), Rebecca Thublin (Savannah State University)

Mentored Undergraduate Students

Matthew Windham (GSU); Abigail McKenna (GSU); Ryan Dashiell (2017; GSU); Michael Keith (2016; GSU); Grant Diedrich (2014; UNCW), Jessica Watts (2014; UNCW); Tammy Bleier (2013; UNCW), John Marion (2013; UNCW), Lisa Jackson (2011; Stony Brook), Peter Miller (2011; Stony Brook), Jennifer Voci (2010-11; Stony Brook), Katherine Lavelle (2008-09; Stony Brook)

Mentored High School Students

Emily Werkmann (2009)

Courses Taught

Georgia Southern: Environmental Biology (undergraduate), Invertebrate Zoology (undergraduate), Marine Ecology (undergraduate), Principles of Biology II Lab (undergraduate)

UNCW: Biology of the Sea (undergraduate)

Stony Brook University: Experimental Marine Biology (undergraduate), Biological Oceanography (undergraduate), Tropical Marine Biology (undergraduate)

Outreach Activities

- 2016-17 Stingray Bowl (National Ocean Science Bowl) Rules Judge
- 2013 Volunteer education events at the North Carolina Aquarium at Fort Fisher
- 2008-11 School of Marine and Atmospheric Science Marine Station, Southampton, NY- Crew on education cruises with camps, junior/senior high school and special needs students
- 2011 School of Marine and Atmospheric Science, Stony Brook, NY- SoMAS Open House
- 2009-11 Tuckahoe School, Southampton NY – Read “Skippy Scallop” written by Suzanne Tate to Kindergarten class, bring marine animals every June 2009-11
- 2009-11 Stony Brook Southampton Coastal Estuarine Research Program Annual Symposium – Environmental symposium open to the public
- 2008 Pierson Middle School, Sag Harbor, NY – worked with 6th grade science classes on a service project
- 2008 Girl Fest, Suffolk County Girl Scouts, Camp Edey, Bayshore, NY – set up a information table about importance of seagrass in New York estuaries
- 2007-08 Girl Scouts of Suffolk County, NY – presentations about my research and environmental issues facing Long Island, worked with 3 different troops on activities to obtain marine science badges

PEER REVIEW

Journals: Marine Ecology Progress Series, Marine Biology, Journal of Experimental Marine Biology and Ecology, Aquaculture Research, ICES Journal of Marine Science, PeerJ, Landscape Ecology, Biology Letters, Georgia Journal of Science

Funding Agencies: NSF, Florida Sea Grant, New York Sea Grant, National Geographic, NOAA

PROFESSIONAL SOCIETIES

Coastal and Estuarine Research Federation, National Shellfish Association, New York Sea Grant, North Carolina Sea Grant

ADDITIONAL EXPERIENCES

- 2016 Discovery Bay, Jamaica, 1 week research trip
- 2015 Discovery Bay, Jamaica, 3 week teaching and research trip
- 2014 Discovery Bay, Jamaica, 3 week teaching and research trip
- 2013 Scientific Communications course, Integration and Application Network, UMCES
- 2013 Discovery Bay, Jamaica, 3 weeks teaching and diving with a research team
- 2012 Discovery Bay, Jamaica, 3 weeks teaching and diving with a research team
- 2010 Kadavu, Fiji spent 3 weeks diving on the protected Great Astrolabe Reef
- 2005 AAUS scientific diving certification, Florida International University, Miami, FL
- 2003 Tropical Marine Biology course, 4 week course in Vanuatu

- 2002 Ocean Classrooms SEAmester Program – spent 10 weeks living, working and taking classes on a 125’ wooden schooner, sailing from Massachusetts to the Caribbean
- 2002 Curacao Seaquarium, Curacao, NA – dive camp, received Advanced Open Water Certification
- 2001 Curacao Seaquarium, Curacao, NA – dive camp, received Open Water certification