

Rachel Lasley-Rasher

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Current Position

Assistant Professor of Biology, University of Southern Maine

Research Interests

I investigate how prey behavior affects predator-prey interactions and large-scale dynamics at the population, community, and ecosystem level. I have primarily addressed these questions within the framework of marine and estuarine zooplankton prey and fish predators.

Education

2012 *Ph.D. Biology*, Georgia Institute of Technology, Advisor: Dr. Jeannette Yen
2005 *B.S. Marine Biology, Magna cum laude*, University of the Virgin Islands

Professional Positions and Ranks

2015-2017 Postdoctoral Researcher and Research Coordinator for Maine Sea Grant, School of Marine Sciences, University of Maine
2015 Cooperative Institute for the North Atlantic Region (CINAR) Post-doctoral Fellow, University of Maine
2013-2015 National Science Foundation (NSF) Post-doctoral Fellow, University of Maine
2009-2012 Instructor (various courses, details below), School of Biology, Georgia Institute of Technology
2008-2009 Teaching Assistant, School of Biology, Georgia Institute of Technology
2005-2007 Graduate Fellow, National Science Foundation, Integrative Graduate Education and Research (IGERT) Program in Aquatic Chemical Signaling

Grants and Fellowships

2016 Building the foundation for an environmental decision support tool for Penobscot Bay, Maine Economic Improvement Fund (MEIF), Karen Wilson, PI (\$87,824)

2015 Characterizing the Penobscot River estuarine transition zone to identify challenges for salmon smolts, their prey, and other sea-run fishes, CINAR, Damian Brady, PI (\$60,000)
2013 NSF Post-doctoral Fellowship (\$170,000)
2008 NSF-IGERT Travel Grant (\$10,000)
2007-2009 Addison E. Verrill Award for Marine Biology, Darling Marine Center University of Maine (\$10,000)
2005-2007 NSF-IGERT Trainee Fellowship (\$60,000)

Teaching Experience

University of Maine:

Co-instructor, Estuarine Oceanography, (14 and 24 students) 2014 & 2015 (respectively), Professors: Larry Mayer & Damian Brady

Georgia Tech:

Lead Instructor, Ecology Laboratory, (5 teaching assistants, 100+ students) 2012

Lead Instructor, GT1000 Freshman Seminar (16 students) 2012

Lead Instructor, Ecology Summer Course, Bio@Tech, (1 teaching assistant, 32 high school students), 2012

Co-Instructor, Honors Ecology: A Problem-Based Course (18 students) 2011
Professor: Marc Weissburg

Assistant Program Director, Pacific Study Abroad Program in New Zealand 2011 & Australia, Georgia Tech, GA, Professor: Dr. David Garton

Co-Instructor, Organismal Biology Lab (15 students) Pacific Study Abroad 2011 Program in New Zealand & Australia, Georgia Tech, GA, Professor: Dr. David Garton

Co-Instructor, Evolutionary Ecology Lab (15 students) Pacific Study Abroad 2011 Program in New Zealand & Australia, Georgia Tech, GA, Professor: Dr. Mike Goodisman

Instructor, Organismal Biology Lab, (13 teaching assistants, 100+ students) 2009-2010

Teaching Assistant, Organismal Biology Laboratory 2008-2009, Georgia Tech, GA, Professor: Dr. Rupal Thazhath

Publications

Yen, J. and **R. Lasley** (2011) Chemical communication between copepods: finding the mate in a fluid environment. In T. Breithaupt and M. Thiel (Ed.), *Chemical Communication in Crustaceans*. Springer New York. p 177-197

R. Lasley-Rasher, D. Rasher, Z. Marion. R. Taylor, M. Hay (2011) Predation constrains host choice for a marine mesograzer. *Marine Ecology Progress Series* 434:91-99

R. Lasley-Rasher & J. Yen (2012) Predation risk suppresses mating success and reproductive output in the coastal marine copepod, *Eurytemora herdmani*. *Limnology and Oceanography*. 57(2): 433-440

J. Heuschele, S. Ceballos, C. Andersen Borg, O. Bjærke, S. Isari, **R. Lasley-Rasher**, E. Lindehoff, A. Souissi, S. Souissi, J. Titelman (2014) Non-consumptive effects of predator presence on copepod reproduction: insights from a mesocosm experiment. *Marine Biology* 161(7): 1653-1666

Lasley-Rasher, R., Burdett-Coutts, V., Kramer, A. and J. Yen (2014) Assessing the in situ fertilization status of two marine copepod species, *Temora longicornis* and *Eurytemora herdmani*; How common are unfertilized eggs in nature? *PLoS ONE* 9(11): e112920. doi:10.1371/journal.pone.0112920

Lasley-Rasher, R., Brady, D., Smith, B. and P. Jumars (2015) It takes guts to locate mobile crustacean prey. *Marine Ecology Progress Series*. 538: 1-12

Lasley-Rasher, R., Nagel, K., Aangra, A. and J. Yen (2016) Intoxicated copepods: ingesting toxic phytoplankton leads to risky behaviour. *Proceedings of the Royal Society B*. 283(1829): 20160176

Honors & Awards

Best Student Presentation Award, Western Society of Naturalists Meeting, 2011
Vancouver, WA November 2011

Finalist for Georgia Tech Biology Outstanding Teaching Award 2010

Addison E. Verrill Award for Marine Biology, Darling Marine Center 2007-2009
University of Maine

National Science Foundation-IGERT Travel Award 2008

SYNERGISTIC ACTIVITIES:

Research mentor, DMC, University of Maine, ME. Mentored 9 undergraduate interns in field and laboratory techniques 2013-present

Volunteer, DMC University of Maine, ME. Led hands-on marine 2013-present science activities at the numerous community events in the Damariscotta region

Volunteer lecturer, Coastal Studies for Girls Program, Freeport, ME. Gave lectures to 17 high school students about opportunities in marine science, 2013
Research mentor, Georgia Tech, GA. Mentored 4 undergraduate students working on their Honor's Biology Thesis and 3 undergraduate students conducting research for NSF Research Experience for Undergraduates (REU), 2007-2011

Volunteer tutor, Children's Restoration Program, Provided tutoring in math and science to children living in an Atlanta homeless shelter, 2008-2011

Private teacher, Taught Biology to a home-schooled student, grade 4, 2010- 2011

ADDITIONAL ACTIVITIES:

Organizing Committee, Darling Center 50th Anniversary Event

President, Biology Graduate Student Association 2009-2011

Organizing Committee, Southeast Ecology and Evolution Conference 2010

Seminar Series Chair, NSF IGERT program 2007-2008

Reviewer, Various peer-reviewed scholarly journals 2010-present

Journals: Marine Biology, Biology Letters, Hydrobiologia, Peer J, Ecology & Evolution, Marine Ecology Progress Series, Aquatic Biology, Limnology & Oceanography

CONTRIBUTED PRESENTATIONS:

The dynamic conditions and food web of the Penobscot Estuary (oral presentation) Penobscot Watershed Conference, Lincolnville, ME, April 9th (app. 300 attendees)

Using fish guts to sample elusive prey over large spatial and temporal scales (oral presentation) Benthic Ecology Meeting, Portland, ME, March 16th-18th (app. 400 attendees)

It takes guts to locate elusive crustacean prey (oral presentation) Ocean Sciences Meeting, New Orleans, LA, February 18th-21st (app. 4,000 attendees)

Characterizing the Penobscot River estuarine transition zone during Atlantic salmon smolt migration (oral presentation) Atlantic Salmon Ecosystem Forum, Orono, ME, January 6th, 2016 (app. 200 attendees)

It takes guts to tell us about elusive prey (oral presentation) Benthic Ecology Meeting, Quebec City, CA, March 8-11th, 2014 (app. 400 attendees)

The importance of top-down and bottom-up drivers of mysid distribution in the Penobscot estuary, Maine, American Fisheries Society, Quebec City, CA, August 2013

Predation risk suppresses mating success and offspring production in a coastal marine copepod, (oral presentation) Western Society of Naturalists Meeting, Vancouver, WA, November 2011

Causes and consequences of mate limitation in two estuarine copepod species...predation risk matters! (oral presentation) Ecological Society of America Meeting, Pittsburgh, PA, August 2010

Consumptive and non-consumptive effects of mysid shrimp predation on copepod mating success, (poster) Southeastern Population Ecology and Evolutionary Genetics Meeting, Dahlonaga, GA, October 2009

Causes and consequences of fertilization limitation in coastal marine copepods, (oral presentation) American Society of Limnology and Oceanography Meeting, Orlando, FL, March 2008

Chemical signaling in copepod reproduction: Exploring chemical and species-specificity of pheromones, (poster presentation) American Society of Limnology and Oceanography Meeting, Victoria, BC, June 2006

Evidence of chemical trail preference in the mating behavior of calanoid copepod, *Temora longicornis*, (poster presentation) American Society of Limnology and Oceanography Meeting, Utah, February 2005