

# Aaren Scott Freeman

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## EDUCATION:

Ph.D. University of New Hampshire, Department of Zoology, Durham, NH 2007  
M.S. Northeastern University, Biology Department, Boston, MA 1999  
B.A. Swarthmore College, Major in Biology, Swarthmore, PA 1993

## PROFESSIONAL EXPERIENCE - ACADEMIC:

### FULL-TIME

Associate Professor, Adelphi University, Garden City, NY 2015-present  
Assistant Professor, Adelphi University, Garden City, NY 2009-2015  
ARC International Fellow, University of Tasmania, AU 2009  
Postdoctoral Research Associate, University of New Hampshire, Durham NH 2007-2009

### PART-TIME

Associate Editor, Journal of Experimental Marine Biology and Ecology (Elsevier) 2017  
Faculty Advisor, REU, Cornell University's Shoals Marine Laboratory, ME 2003-2007  
Instructor: *Ecology, Marine Immersion*, University of New Hampshire 2008,2009  
Instructor: *Invertebrate Zoology*, Northeastern University, MA 2004, 2005  
Teaching Assistant: 1996-2005  
*Invasive Species, Oceanography, Marine Botany, Experimental Design, Zoology, Anatomy and Physiology, Ecology, Marine Plants*

## PROFESSIONAL EXPERIENCE – NON-ACADEMIC:

Research Technician, Friday Harbor, WA 1999-2001  
Environmental and maritime educator, engineer, and deckhand 1994-1996

## PUBLICATIONS (\*indicates undergraduate collaborator)

### REFEREED JOURNAL ARTICLES:

Buccheri, E. \*, M. Foellmer, B. Christensen, and **A. S. Freeman** (2019) Variation in righting times of *Holothuria atra*, *Stichopus chloronotus* and *Holothuria edulis* in response to ocean warming on the Heron Reef in the southern GBR. Journal of Marine Biology. <https://doi.org/10.1155/2019/6179705>

Adams, H. N.\* and **A. S. Freeman** (2017) Geographic variation in reproductive investment of the whelk *Nucella lapillus*. Northeastern Naturalist 24 (3), 289-299.

**A. S. Freeman**, A. Frischeisen\* and A. M. H. Blakeslee (2016) Estuarine fouling communities are dominated by nonindigenous species in the presence of an invasive crab. *Biological Invasions* 18 (6), 1653–1665.

Dernbach, E.\* and **A. S. Freeman** (2015) Foraging preference of whelks *Nucella lapillus* is robust to influences of wave exposure and predator cues. *Marine Ecology Progress Series* 540, 135-144.

**Freeman, A. S.**, E. Dernbach\* C. Marcos\*, and E. Koob\*. (2014) Biogeographic contrast of *Nucella lapillus* responses to *Carcinus maenas*. *Journal of Experimental Marine Biology and Ecology* 452, 1–8.

**Freeman, A. S.**, A. M. H. Blakeslee, and A. E. Fowler. (2013) Northward expansion of the rhizocephalan *Loxothylacus panopaei* (Gissler, 1884) in the northwest Atlantic. *Aquatic Invasions* 8 (3), 347-353.

**Freeman, A. S.**, J. T. Wright, C. L. Hewitt, M. L. Campbell, and K. Szeto\*. (2013) A gastropod's induced behavioral and morphological responses to invasive *Carcinus maenas* in Australia indicate a lack of novelty advantage. *Biological Invasions* 15, 1795-1805.

Short F., B. Polidoro, S. Livingstone, K. Carpenter, S. Bandeira, J. Bujang, H. Calumpang, T. Carruthers, R. Coles, W. Dennison, P. Erftemeijer, M. Fortes, **A. Freeman**, T. Jagtap, A. Kamal, G. Kendrick, J. Kenworthy, Y. Nafie, I. Nasution, R. Orth, A. Prathep, J. Sanciangco, B. Tussenbroek, S. Vergara, M. Waycott, and J. Zieman, (2011) Extinction risk assessment of the world's seagrass species. *Biological Conservation*. 144: 1961–1971.

**Freeman, A. S.** and C. Hamer\* (2009) Variation in trait-mediated indirect interactions of *Nucella lapillus* along a wave exposure gradient. *Journal of Experimental Marine Biology and Ecology* 372: 58-63.

**Freeman, A. S.**, J. Meszaros\* and J. E. Byers (2009) Poor phenotypic integration of blue mussel inducible defenses in environments with multiple predators. *Oikos* 118: 758-766.

**Freeman, A. S.**, F. Short, I. Isnian, F. Razak, and R. Coles (2008) Seagrasses on the edge: Local land-use practices threaten coastal seagrass communities in Sabah, Malaysia. *Biological Conservation* 141:2993-3005.

**Freeman, A. S.** and J. E. Byers (2007) Response to comment on “Divergent induced responses to an invasive predator in marine mussel populations”. *Science* 316: 53c

**Freeman, A. S.** (2007) Specificity of induced defenses in *Mytilus edulis* and asymmetrical predator deterrence. *Marine Ecology Progress Series* 334: 145-153.

**Freeman, A. S.** and J. E. Byers (2006) Divergent induced responses to an invasive predator in marine mussel populations. *Science* 313:831-833.

**Freeman, A. S.** (2006) Size-dependent trait-mediated indirect interactions within a guild of sea urchin herbivores. *Behavioral Ecology* 17:182-187.

Dethier, M. N., S. L. Williams, and **A. S. Freeman** (2005) Seaweeds under stress: Manipulated stress and herbivory affect critical life history functions. *Ecological Monographs* 75 (3) 403-418.

**Freeman, A. S.** and L. D. Smith. (1999) Grazing pressure on invasive and endemic subspecies of *Codium fragile*. *Marine Bioinvasions Conference Proceedings*, Cambridge, MA.

#### REPORTS:

Freeman, A. (2020) Quality Assurance Project Plan: NFWF QAPP PROJECT NO.: 65633) Bioextraction of “Gold Coast” Kelp in the Oyster Bay Complex (NY) US EPA Recipient via Cooperative Agreement #LI-00A00606 (NFWF FC.R414). 135p.

#### NON-REFEREED PRESENTATIONS:

Freeman, A. S. H. Louima, A. Henaghan, V. Martinez, E. Taub and RL. McManus (2019) The Asian shore crab, *Hemigrapsus sanguineus*, invasion may be facilitated by high pesticide tolerance, Adelphi University, Garden City, NY. CERF Mobile AL.

Freeman, A., A. Henaghan, H. Louima, V. Martinez, and E. Taub (2018) The Asian shore crab, *Hemigrapsus sanguineus*, invasion may be facilitated by high pesticide tolerance. International Conference on Marine Bioinvasions, Puerto Madryn, Argentina.

Freeman, A., A. Henaghan, H. Louima, V. Martinez, and E. Taub (2017) Can pesticide tolerance favor invasive species? An example using marine crabs. The Ecological Society of America Annual Meeting. Portland, OR.

Martinez, V., E. Taub, and A. Freeman (2017) The native *Eurypanopeus depressus* mud crab is more inhibited by malathion than the invasive crab, *Hemigrapsus sanguineus*. The Society for Integrative and Comparative Biology. New Orleans, LA.

Spiegel, L. and A. Freeman (2017) The effect of salinity on *Loxothylacus panopaei* nauplii mortality. The Society for Integrative and Comparative Biology. New Orleans, LA.

Freeman, A.S., A. Blakeslee, A. Fowler, A. Frischeisen, and S. Kulins (2016) The impacts of an invasive crab (*Hemigrapsus sanguineus*) on estuarine fouling communities. International Conference on Marine Bioinvasions. Sydney, Australia.

Freeman, A.S., Blakeslee, A., Fowler, A., and Kulins, S. (2016) Invaders and zombie crabs: Does a rhizocephalan parasite facilitate the Asian shore crab invasive around Long Island, NY, USA. Benthic Ecology Meetings. Portland, ME.

Kulins, S., Freeman A., Fowler A., and Blakeslee, A. (2015) Invasion of rhizocephalan parasite *Loxothylacus panopaei* (Gissler, 1884) in the northwest Atlantic. Benthic Ecology Meetings. Quebec City, Canada.

Freeman, A.S., Blakeslee, A., Fowler, A., Frischeisen, A., Kulins, S. and Taub, E. (2014) Anthropogenic facilitation and impacts of invasive Asian shore crab around Long Island, NY, USA. International Marine Conservation Congress. Glasgow, Scotland, UK.

Freeman, A. S. A. Blakeslee, A. Fowler, A. Frischeisen, S. Kulins, and E. Taub. (2014) Factors affecting the relative distribution of invasive Asian shore crabs and native panopeid mud crabs around Long Island, NY USA. Benthic Ecology Meeting, Jacksonville, FL.

Adams, H.N. and A.S. Freeman, (2014) Latitudinal Gradient of Reproductive Investment in the Marine Snail *Nucella lapillus*. Benthic Ecology Meeting, Jacksonville, FL.

Dernbach, E.M. and A.S. Freeman (2014) Wave exposure, available prey density, and predator cues elicit variable foraging behavior in *Nucella lapillus*. Benthic Ecology Meeting, Jacksonville, FL.

Freeman, A., A. Blakeslee, and A. Fowler. (2013) Range expansion of the rhizocephalan *Loxothylacus panopaei* (Gissler, 1884) in the northwest Atlantic. Benthic Ecology Meeting, Charlotte, NC.

Freeman, A., J. Wright, C. Hewitt, C. Marcos, E. Dernbach, K. Szeto, E. Koob, and M. Campbell. (2012) Does the invasive marine crab (*Carcinus*) experience a novelty advantage across different intertidal communities? Ecological Society of America, Portland, OR.

Dernbach, E., C. Marcos, and A. Freeman. (2011) Behavioral and morphological responses of *Nucella lapillus* to invasive and native crab predators. New York Marine Science Consortium annual conference, Palisades, NY. Won "Best Student Poster".

Freeman, A., E. Dernbach, C. Marcos, J. Wright, K. Szeto, E. Koob, C. Hewitt, and M. Campbell. (2011) Biogeographic juxtaposition of responses to a globally invasive marine crab. Benthic Ecology Meeting, Mobile AL.

Freeman, A., J. Wright, K. Szeto, E. Koob, C. Hewitt, and M. Campbell. (2011) Biogeographic comparisons of prey responses to the invasive marine crab *Carcinus maenas*? Society for Integrative and Comparative Biology, Salt Lake City, UT.

Freeman, A., J. Wright, K. Szeto, E. Koob, C. Hewitt, and M. Campbell. (2010) *Carcinus maenas* Down Under: Predator recognition of European green crabs in Tasmania and Victoria, Australia. Benthic Ecology Meeting, Wilmington, NC.

Freeman, A. J. Wright, K. Szeto, E. Koob, C. Hewitt, and M. Campbell. (2009) Does evolutionary history influence recognition of the European green crab (*Carcinus maenas*)? Coastal and Estuarine Research Federation, Portland, OR.

Freeman, A. J. Wright, K. Szeto, E. Koob, C. Hewitt, and M. Campbell. (2009) Does evolutionary history influence recognition of the European green crab (*Carcinus maenas*)? Marine Biological Invasions, Portland, OR.

Freeman, A. F. T. Short, I. Isnain, F. Razak, and R. G. Coles. (2008) Seagrass declines in Malaysia. Western Society of Naturalists. Vancouver, Canada.

Freeman, A. F. T. Short, I. Isnain, F. Razak, and R. G. Coles. (2007) Seagrasses on the edge: local land use threatens seagrasses in Sabah (Malaysia). Estuarine Research Society, Providence, RI.

Freeman, A. F. T. Short, and R. G. Coles. (2006) SeagrassNet: A Worldwide Seagrass Monitoring Program. International Seagrass Biologist Workshop, Zanzibar, Tanzania.

Freeman, A. (2006) Blue mussel inducible defenses: the importance of predator functional diversity and varying intertidal growth rates. Benthic Ecology Meeting, Quebec City, QC, Canada.

Freeman, A. (2005) Inducible defenses of a marine mussel in response to multiple predators with different attack strategies. Ecological Society of America, Montreal, QC, Canada.

Freeman, A. (2004) Variable induced defenses of *Mytilus edulis* in response to two invasive crab predators. Ecological Society of America, Portland, OR.

#### INVITED PRESENTATIONS:

Freeman, A. (2020) "Suburban Estuaries – Is there a local solution to global pollution?" Garden City Community Club. Garden City, NY.

Freeman, A. (2019) "CORE and Kelp" Oyster Bay Cold Spring Harbor Protection Committee and Friends of the Bay. Oyster Bay, NY.

Freeman, A. (2019) "Oysters, Kelp and Long Island's Coastal Estuaries". Science Café, Oceanside Library, Oceanside, NY.

Freeman, A. (2016) "Zombie Crabs vs Invaders: Does a Marine Parasite Make its Host Vulnerable to another Invasive Crab?" Werth Center for Coastal and Marine Studies, Southern Connecticut State University.

Freeman, A., (2015) Zombies and invaders: Does a marine parasite make its crab host vulnerable to another invasive crab? Hofstra University, conference “Parasites and Pathogens: Ecological and Medical Impacts of Global Climate Change”

Freeman, A., (2013) Induced behavioral and morphological defenses of marine mollusks in response to invasive and native crabs. Stony Brook, Southampton.

Freeman, A., (2012) Biogeography of induced defenses: Marine ecology, invasive species and evolutionary history can be all wet. Long Island Marine Association, Freeport, NY.

Freeman, A., (2012) Biogeography of induced defenses: Marine ecology, invasive species and evolutionary history can be all wet. LIU Post, Brookville, New York.

Freeman, A., (2007) The maintenance, evolution, and impacts of inducible morphological defenses in *Mytilus edulis*: responses to multiple and invasive predators. UNH Marine Docents, Durham, NH.

#### WORKS IN PROGRESS:

Saxena, P., A. Freeman (in progress) Sexual Dimorphism In Asian Shore Crab And Its Influence In Predation On Dog-Whelks. Target: Marine Biology

Freeman, A., A. E. Fowler, Z. Holmes\*, I. Kernin\*, S. Kulins\*, and A. Blakeslee (being revised) Cryptic invasion meltdown: an invasive parasite facilitates displacement of native crabs by an invasive crab. *Oecologia*.

Freeman A., A. Henaghan\*, H. Louima\*, V. Martinez\*, and E. Taub\* (in prep) The pesticide malathion disproportionately impacts native mud crabs and may contribute to the invasion success of the Asian shore crab.

#### GRANTS:

A. Freeman (sub-grantee), Johnson, H. (PI), R. Wallace, S. Koester, and B. Udelson (2021-2023) Oyster Habitat Restoration and Monitoring Utilizing Spawner Sanctuaries in Oyster Bay and Cold Spring Harbor (\$86,815).

Freeman, A. (sub-grantee), N. D'Aversa (PI) (2019-2020) New England Interstate Pollution Control Committee “Utilizing Seaweed Aquaculture to Improve Water Quality in Great South Bay, New York” (\$3,500).

Freeman, A. (PI) (2019-2021) National Fish and Wildlife Foundation/Long Island Sound Study for "Gold Coast Kelp: Oyster Bay sugar kelp pilot project." (\$103,918)

Freeman, A (PI) and R. Coffey (2018-2020) Sierra Club Long Island Group for "CORE: Community Oyster Restoration Effort - oyster shell reclamation and research" (\$19,200)

Hogan, T., C. Maguire, Kang, E., Ward, A., Freeman, A., and Curinga, M. (2018-2023) The New York Noyce STEAM Pipeline: Preparing Next Gen Science Teachers at Adelphi University. (\$1,200,000)

Freeman, A. (CoPI) and B. Christensen (2016) International Faculty Development Grant, Adelphi University (\$4,700).

Freeman, A. S. (PI) (denied) Can pesticide run-off influence invasion success of marine crabs? New York Sea Grant pre-proposal. (\$110,000 requested)

Freeman, A. (PI) (2015) Climate change and ecological resilience in Long Island kelp beds. Faculty Development Grant, Adelphi University (\$4,850).

Freeman, A. S. (PI), D. Smee, J. Hogan, and M. Wong. (denied) RUI Collaborative Research: Invasive species and environmental conditions influence consumptive and non-consumptive predator effects. National Science Foundation- Biological Oceanography (\$824,000 requested).

Christensen, B., J. Goff, J. Austin, R. Flood, C. McHugh, J. Dutton, and A. Freeman (CoPI). (denied) Developing an “Urban Coastal Observatory” for the Investigation of Barrier System Response to Storms: Long Beach and Hempstead Bay, New York. *Hurricane Sandy Coastal Resiliency Competitive Grant Program* - Department of the Interior (DOI) and National Fish and Wildlife Foundation (NFWF)(\$999,587 requested).

Freeman, A. (PI) , L. Smee. (2013) (denied) RUI Collaborative Research: How do hydrodynamics influence indirect effects propagating from native and invasive predators? National Science Foundation- Biological Oceanography (\$253,978 requested)

Blakeslee, A., A. Fowler, A. Freeman (CoPI) (2013) (denied) Rapid assessment of an invasion in progress: understanding the spread and ecological impacts of two rhizocephalan castrating barnacles, *Loxothylacus panopaei* and *L. texanus*, on Long Island populations. National Science Foundation RAPID (Biological Oceanography) (\$200,000 requested)

Freeman, A. (PI) (2012) Wave exposure influences marine predator-prey interactions. Faculty Development Grant, Adelphi University (\$4,937).

Christensen, B., Alcabes, T. Hogan, J. Dutton, M. Foellmer, A. Freeman (CoPI), A. Ward (2012) (denied) *Teaching for the New Environment: Meeting the Challenges of a Changing World*. Environmental Protection Agency. (\$216,680 requested)

Freeman, A. (PI) A. Stump, L. Smee. (2012) (denied) RUI Collaborative Research: Biogeography of responses to waterborne predator cues. National Science Foundation- Biological Oceanography (\$283,640 requested)

Freeman, A (2011) (denied) RUI: Exploring prey naivete using a global biological invasion: Biogeographic Juxtaposition of prey responses to the European green crab (*Carcinus maenas*). National Science Foundation- Biological Oceanography (\$652,024 requested).

Freeman, A. (PI) (2010) Fear and Predation Down Under: Indirect impacts of the crown-of-thorns starfish on Great Barrier Reef corals. Faculty Development Grant, Adelphi University (\$4,200).

Freeman, A. (CoPI) and W. Watson (2009) Assessing chemical recognition of an invasive crab predator through biogeographic comparisons among native, molluscan prey NH SeaGrant, Development Grant (\$5,000).

Freeman, A.(PI), J. Wright, C. Hewitt, and M. Campbell (2009) Post-invasion trait-mediated indirect interactions: ecological and evolutionary impacts of the invasive European green crab. Australian Research Council, Univ. of Tasmania (AU\$60,000)

Freeman, A. (2007) Excellence in Research Award, Zoology Dept. UNH (\$0)

Freeman, A. (2005-6) UNH, Graduate School, Dissertation Fellowship (\$13,750)

Freeman, A. (2002-2005) Phenotypic plasticity in blue mussels. Great Bay NERR/NOAA Fellowship (\$74,000)

## SERVICE

### PROFESSIONAL

#### JOURNAL REVIEWER:

*Aquatic Invasions, Aquatic Biology, Behavioral Ecology, Biological Invasions, Botanica Marina, Ecology, Journal of Experimental Marine Biology and Ecology, Journal of Marine and Freshwater Research, Marine Biology, Marine Ecology Progress Series, and Oecologia.*

#### OTHER:

Metropolitan Area Conference of University Biologists (MACUB) (2012) Organized poster session.

Initiated Community Oyster Restoration (CORE), an oyster shell recycling program, with Adelphi University students and Town of Hempstead conservation biologists.

### SCHOOL/DEPARTMENT:

Search committee chair for Adelphi Environmental Studies VAP 2020-20201

Search committee chair for Adelphi Environmental Studies tenure track hydro-geologist

Search committee chair for Adelphi Department of Biology – Physiologist (2016-2017)

College of Arts and Sciences Academic Affairs Committee (2012-2014)

Search committee for Adelphi Department of Biology – Physiologist (2011-2012).

Search committee for Adelphi Environmental Studies (2011-2012).

Search committee for Adelphi Department of Biology – Physiologist (2014-2015).



Co-chair, Committee on Honors and Undergraduate Research (2012-present)  
Biology Department Assessment Committee (2013 - present)  
Course Leader, Bio 112 Laboratory Sections (2014- present)

UNIVERSITY:

**Adelphi University Sustainability Council –organize much data on the AASHE STARS rating for Adelphi.**

**Faculty Senate (2016-present)**

Experiential Learning Committee (2010-2011, Chair: Graham Henning). Establish and submit to the Provost standards for Experiential Learning at Adelphi. Committee members met every 1-2 months to review, discuss and edit proposals for implementing experiential learning at Adelphi.

Faculty Reviewer for Adelphi Research Conference (2011-present)