

# MELISSA H. PESPENI

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## EDUCATION

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2010 Ph.D., Biology, Stanford University  
2002 B.S., Ecology, Behavior & Evolution, University of California, San Diego  
2002 B.A., Critical Gender Studies, University of California, San Diego

## PROFESSIONAL EXPERIENCE

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2020-now Associate Professor, Department of Biology, University of Vermont  
2017-now Director, Quantitative & Evolutionary STEM Traineeship (QuEST), University of Vermont  
2014-2020 Assistant Professor, Department of Biology, University of Vermont  
2011-2014 National Science Foundation Postdoctoral Fellow in Biology, Indiana University  
2010-2011 National Science Foundation-funded Postdoctoral Fellow, Stanford University  
2006-2008 National Science Foundation Graduate Research Fellow, Stanford University  
2002-2005 Research Scientist, University of California, San Francisco  
2001-2002 Ronald E. McNair Fellow, University of California, San Diego

## GRANTS

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2020-2022 National Science Foundation, "EAGER: An Ecologically Inspired Human-Machine Intelligence Approach to Recognizing Similitude in Multi-Scale Watershed Research," S. Hamshaw (PI), D. Rizzo (Co-PI), B. Lee (Co-PI), **M.H. Pespeni (Co-PI)**, K. Underwood (Co-PI). \$299,971  
2020-2025 National Science Foundation, "CAREER: Mechanisms and costs of temperature adaptation along a latitudinal cline for the coastal copepod, *Acartia tonsa*," **M.H. Pespeni (PI)**. \$1,455,775  
2017-2022 National Science Foundation, "NRT: Quantitative & Evolutionary STEM Training (QuEST): An Integrative Training Program for Versatile STEM Professionals to Solve Environmental and Global Health Problems," **M.H. Pespeni (PI)**, L. Stevens (Co-PI), V. Kanagala (Co-PI), S.R. Keller (Co-PI), L. Hebert-Dufresne (Co-PI). \$3,000,000  
2017-2021 National Science Foundation, RII Track-2: "Using biophysical protein models to map genetic variation to phenotypes," F.M. Ytreberg (PI), H. Wichman (Co-PI), B.L. Lockwood (Co-PI), C. Miller (Co-PI), D.M. Weinreich (Co-PI), B. Ogbunugafor (Co-PI), **M.H. Pespeni (Co-I)**. \$6,000,000 total, \$355,875 to Co-I Pespeni  
2016-2019 National Science Foundation, "Collaborative Research: Transgenerational phenotypic and genomic responses of marine copepods to the interactive effects of temperature and CO<sub>2</sub>," **M.H. Pespeni (PI)**, Collaborators at U.Conn.: H. Dam (PI), H. Baumann (Co-PI), M. Finiguerra (Co-PI). \$886,917 total, \$377,233 to PI Pespeni  
2016-2017 National Science Foundation, "RAPID: Investigation of natural selection and host-microbiome-virome interactions in an unprecedented and ongoing marine epidemic", **M.H. Pespeni (PI)**. \$196,449 – in no cost extension through 2019  
2013-2014 California State University Faculty Support Grant, "Environmental genomics in Oysters", T. Evans (PI), **M.H. Pespeni (Co-PI)**. \$5,000  
2004 National Institutes of Health, NIGMS supplement to RO1 to support diversity in STEM, **M.H. Pespeni** co-wrote with J.F. Pittet (PI), \$67,165  
2003 Department of Surgery Research Grant, University of California, San Francisco, \$18,000

## FELLOWSHIPS

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2011-2014	National Science Foundation, Postdoctoral Fellowship in Biology, \$189,000
2011-2014	National Institutes of Health, National Research Service Award (NRSA) Post-doctoral Fellowship, withdrew to accept NSF Postdoctoral Fellowship
2006-2008	National Science Foundation, Graduate Research Fellowship, \$123,000
2001-2002	Ronald E. McNair Fellow, University of California, San Diego, \$5,500

## HONORS & AWARDS

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2016	Graduate Student Senate <i>Excellence in Teaching</i> Award Nomination, UVM
2015	Early Career Travel Award, Association for the Sciences of Limnology and Oceanography (\$500)
2013	Selected participant, National Science Foundation Workshop on Writing and Productivity for Young Investigators, Pembroke, VA
2009	Best Student Paper, Honorable mention, Western Society of Naturalists
2008	Jane Miller Scholars Award (\$1000)
2004	Graduate Student Highlights Poster Discussion, FASEB Experimental Biology

## PUBLICATIONS

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**Pespeni lab mentees** are underlined with superscripts indicating career stage: postdoc<sup>(P)</sup>, graduate student<sup>(G)</sup>, undergraduate<sup>(U)</sup>, research assistant<sup>(R)</sup>.

### Journal articles published or in press:

28. Garrett, A.<sup>(G)</sup>, Brennan, R.<sup>(P)</sup>, Steinhart, A.<sup>(U)</sup>, Pelletier, A.<sup>(U)</sup>, **Pespeni, M.H.** (2020) Unique genomic and phenotypic responses to extreme and variable pH conditions in purple urchin larvae. *Integrative and Comparative Biology*, 60:2, 318-331. <https://doi.org/10.1093/icb/icaa072>
27. Palumbi, S.R, Evans, T.G., **Pespeni, M.H.**, Somero, G.N. (2019) Present and future adaptation of marine species assemblages: DNA-based insights into climate change from studies of physiology, genomics and evolution. *Oceanography*, 32(3), 82-93.
26. Brennan, R.<sup>(P)</sup>, Garrett, A.<sup>(G)</sup>, Huber, K.<sup>(U)</sup>, Hargarten, H.<sup>(R)</sup>, **Pespeni, M.H.** (2019) Rare genetic variation and balanced polymorphisms are important for survival in global change conditions. *Proceedings of the Royal Society, B*, 286: 20190943. [UVM press release](#), June 12, 2019.
25. Lloyd, M.M.<sup>(P)</sup> and **Pespeni, M.H.** (2018) Microbiome shifts with onset and progression of Sea Star Wasting Disease revealed through time course sampling. *Scientific Reports*, 8:1, 16476.  
[Press coverage: [WCAX TV](#), [Monterey Herald](#), [DW Science](#), [Quartz](#), [UVM press release](#)]
24. Maynard, A., Bible, J.M., **Pespeni, M.H.**, Sanford, E., and Evans, T.G. (2018) Transcriptomic responses to extreme low salinity among locally adapted populations of Olympia oyster. *Molecular Ecology*
23. Laruson, A.J., Coppard, S.E., **Pespeni, M.H.**, and Reed, F.A. (2018) Gene expression across tissues, sex, and life stages in the sea urchin *Tripneustes gratilla*. *Marine Genomics*
22. **Pespeni, M.H.**, Ladner, J.T. and A. P. Moczek. (2017) Signals of selection in conditionally expressed genes in the diversification of three horned beetle species. *Journal of Evolutionary Biology*, 30:9, 1644-1657.

21. Evans, T. G.\* , **Pespeni, M.H.\***, G. E. Hofmann, S. R. Palumbi, E. Sanford. (2017) Transcriptomic responses to seawater acidification among sea urchin populations inhabiting a natural pH mosaic. *Molecular Ecology*, DOI: 10.1111/mec.14038. \* Equal contributions.
20. Lloyd, M.M.<sup>(P)</sup>, Makukhov, A.<sup>(G)</sup> and **Pespeni, M.H.** (2016) Loss of genetic diversity as a consequence of selection in response to high  $p\text{CO}_2$ . *Evolutionary Applications*, 9:9, 1124-1132.
19. De Wit, P.\* , **Pespeni, M.H.\***, & Palumbi, S. R. (2015) SNP genotyping and population genomics from expressed sequences—current advances and future possibilities. *Molecular ecology*, 24(10), 2310-2323. \* Equal contributions.
18. Evans, T. G., J. L. Padilla-Gamiño, M. W. Kelly, **Pespeni, M.H.**, F. Chan, B. A. Menge, B. Gaylord, T. M. Hill, A. D. Russell, S. R. Palumbi, E. Sanford, G. E. Hofmann. (2015) Ocean acidification research in the ‘post-genomic’ era: roadmaps from the purple sea urchin *Strongylocentrotus purpuratus*. *Comparative Biochemistry and Physiology, Part B.*, 185:33-42.
17. Kijimoto, T., E.C. Snell-Rood, **Pespeni, M.H.**, G. Rocha, K. Kafadar, A.P. Moczek. (2014) The nutritionally responsive transcriptome of the polyphenic beetle *Onthophagus taurus* and the importance of sexual dimorphism and body region. *Proceedings of the Royal Society, B.*, 281:1797, 2014-2084.
16. **Pespeni, M.H.**, F. Chan, B. A. Menge, S. R. Palumbi. (2013) Signs of adaptation to local pH conditions across an environmental mosaic in the California Current Ecosystem. *Integrative and Comparative Biology*, 53:5, 857-870.
15. **Pespeni, M.H.**, E. Sanford, B. Gaylord, T. M. Hill, J. D. Hosfelt, H. Jaris, M. LaVigne, E. Lenz, A. D. Russell, M. K. Young, and S. R. Palumbi. (2013) Evolutionary change during experimental ocean acidification. *Proceedings of the National Academy of Sciences*, 110:17, 6937-6942.  
[Press coverage by *Nature*, *Scientific American*, *New Scientist*, *Mother Jones*, *Science News for Kids*, and more.]
14. **Pespeni, M.H.** and S. R. Palumbi. (2013) Signals of selection in outlier loci in a widely dispersing species across an environmental mosaic. *Molecular Ecology*, 22:13, 3580-3597.
13. **Pespeni, M.H.**, B. Barney and S. R. Palumbi. (2013) Differences in the regulation of growth and biomineralization genes revealed through long-term common-garden acclimation and experimental genomics in the purple sea urchin. *Evolution*, 67:7, 1901-1914.
12. Kijimoto, T.,\* **Pespeni, M.H.,\*** O. Beckers,\* and A. P. Moczek. (2012) Beetle horns and horned beetles: emerging models in developmental evolution and ecology. *WIREs Developmental Biology*, 2:3, 405-418. \* Equal contributions.
11. De Wit, P.,\* **Pespeni, M.H.,\*** J. T. Ladner, D. J. Barshis, F. Seneca, H. Jaris, N. Overgaard Therkildsen, M. Morikawa, and S. R. Palumbi. (2012) The Simple Fool’s Guide to population genomics: Gene expression and SNP data analysis in the age of high-throughput sequencing. *Molecular Ecology Resources*, 12, 1058-1067. \* Equal contributions.
10. **Pespeni, M.H.**, D. A. Garfield, M. K. Manier, and S. R. Palumbi. (2012) Genome-wide polymorphisms show unexpected targets of natural selection. *Proceedings of the Royal Society, B.*, 279:1732, 1412-1420.
9. **Pespeni, M.H.**, T. A. Oliver, M. K. Manier, and S. R. Palumbi. (2010) Restriction Site Tiling Analysis: accurate discovery and quantitative genotyping of genome-wide polymorphisms using nucleotide arrays. *Genome Biology*, 11:R44.

8. Woodson, C. B., D. I. Eerkes-Medrano, A. Flores-Morales, M.M. Foley, S.K. Henkel, M. Hessing-Lewis, D. Jacinto, L. Needles, M.T. Nishizaki, J. O’Leary, C.E. Ostrander, **Pespeni, M.H.**, K.B. Schwager, J.A. Tyburczy, K.A. Weersing, A.R. Kirincich, J.A. Barth, M.A. McManus, L. Washburn. (2007) Local diurnal upwelling driven by sea breezes in northern Monterey Bay. *Continental Shelf Research*, 27:18, 2289-2302.
7. **Pespeni, M.H.**, M. Hodnett, K. S. Abayasiriwardana, J. Roux, M. Howard, V. C. Broaddus and J.F. Pittet. (2007) Sensitization of mesothelioma cells to tumor necrosis factor–related apoptosis–inducing ligand–induced apoptosis by heat stress via the inhibition of the 3-phosphoinositide-dependent kinase 1/Akt pathway. *Cancer Research*, 67, 2865-71.
6. Godzich, M., M. Hodnett, J. A. Frank, G. Su, **Pespeni, M.H.**, A. Angel, M. B. Howard, M. A. Matthay and J. F. Pittet. (2006) Activation of the stress protein response prevents the development of pulmonary edema by inhibiting VEGF cell signaling in a model of lung ischemia-reperfusion injury in rats. *The FASEB Journal*, 20, 1519-1521.
5. Roux, J., H. Kawakatsu, B. Gartland, **Pespeni, M.H.**, D. Sheppard, M.A. Matthay, C. Canessa, J.F. Pittet. (2005) Interleukin-1 $\alpha$  decreases expression of the epithelial sodium channel  $\alpha$ ENaC in lung epithelial cells via a p38 MAP kinase-dependent signaling pathway. *Journal of Biological Chemistry*, 280, 18579-89.
4. **Pespeni, M.H.**, R.C. Mackersie, H. Lee, D. Morabito, M. Hodnett, M. Howard, and J.F. Pittet. (2005) Serum levels of Hsp60 measured early after injury correlate with the development of acute lung injury following severe trauma. *Journal of Surgical Research*, 126, 41-7.
3. **Pespeni, M.H.**, M. Hodnett, and J.F. Pittet. (2005) In vivo stress preconditioning. *Methods*, 35, 158-64.
2. Pittet, J.F.,\* H. Lee,\* **Pespeni, M.H.**,\* A. O’Mahony, J. Roux, and W.J. Welch. (2004) Stress-induced inhibition of the NF- $\kappa$ B signaling pathway results from the insolubilization of the I $\kappa$ K complex following its dissociation from Hsp90. *Journal of Immunology*, 174, 384-94. \* Equal contributions.
1. Lee, H.,\* **Pespeni, M.H.**,\* J. Roux, P.A. Dennery, M.A. Matthay, and J.F. Pittet. (2004) HO-1 induction restores c-AMP-dependent lung epithelial fluid transport following severe hemorrhage in rats. *The FASEB Journal*, 19, 287-9. \* Equal contributions.

#### Refereed book chapters:

1. Moczek, A.P., Kijimoto, T., Snell-Rood, E., Rocha, G., **Pespeni, M.H.**, and Kafadar, K. (2014) Evolutionary and ecological genomics of developmental plasticity: novel approaches and first insights from the study of horned beetles. In: *Ecological Genomics*; edited by C. Landry and N. Aubin-Horth. Springer Verlag, Berlin, 127-148.

#### TEACHING

##### Primary Instructor:

Term	Course	CR	Size	Type of class
SP19	Genetics; BCOR101	3	180	Large lecture with 10 recitation sxns
FA18- present	QuEST Seminar; BIOL381F	1	27	Grad seminar with prof. development
FA16- present	BioLunch; BIOL381C	1	26	Grad seminar with prof. development
SP18	Ecological Genomics; BIOL381B	4	6	Applied graduate course
SP17	Ecological Genomics; BIOL381B	4	15	Applied graduate course

FA15	Ecological Genomics; BIOL381B	4	17	Applied graduate course
SP18	Exploring Biology; BCOR12	4	48	Lecture with lab led by TA
SP17	Exploring Biology; BCOR12	4	48	Lecture with lab led by TA
SP16	Exploring Biology; BCOR12	4	48	Lecture with lab led by TA
SP15	Exploring Biology; BCOR12	4	48	Lecture with lab led by TA
SP15	Hot Topics in Evol. Gen.; BIO381 F	2	7	Grad seminar with intensive writing

**Guest lectures:**

- 2018 Introduction to Marine Biology, University of Vermont  
 2018 Emerging Science, Technology, & Health, University of Vermont  
 2015-2017 Ecology and Evolution, University of Vermont  
 2007-2009 Molecular Ecology, Stanford University

**Advancement of pedagogy**

- 2020 Book group participant “Lessons from Cheating”, University of Vermont  
 2018 Workshop participant “Diversity and Inclusion in the Classroom”, University of Vermont  
 2018 Workshop participant “Mentoring Writing in the Lab”, University of Vermont  
 2018 Discussion participant “Excellence in Teaching: A Discussion with the Kroepsch-Maurice Award Recipients”, University of Vermont  
 2016 Workshop participant “Mentoring the Writing of Emerging Scientists”, University of Vermont  
 2015 Faculty training on “Undergraduate STEM Research Mentoring”, 8-week program, part of the NIH National Research Mentoring Network, University of Vermont  
 2014 Multiple workshops on active learning, effective teaching, establishing, meeting and assessing learning objectives, Center for Teaching and Learning, University of Vermont  
 2012 Active learning roundtable, “From Note-taking to Knowledge-making: Engaging Students in Scientific Inquiry,” Indiana University  
 2012 Workshop on active learning and increasing minority representation in STEM fields, led by Dr. Scott Freeman of University of Washington, Indiana University  
 2005 Inquiry-based Learning, Semester-long course with practice, Stanford University

**MENTORSHIP****Postdoctoral fellows:**

- Easton White, QuEST Postdoctoral Fellow (Nov 2018-)  
 Reid Brennan, National Science Foundation-funded Postdoctoral Fellow (2017-)  
 Melanie Lloyd, National Science Foundation-funded Postdoctoral Fellow (2015-2018)

**PhD students:**

- Lauren Ashlock, National Science Foundation-funded QuEST Fellow (2016-)

**MS students:**

- Emily Shore (2018-)  
 April Garrett, National Science Foundation Graduate Research Fellow (2015-)

**Undergraduates with independent research projects:**

- Jessica Crooker, Awarded SURF Summer Research Award (B.S. Biological Sciences, UVM, 2019-)  
 Chelsea Darwin, Awarded APLE Summer Research Award (B.S. Biological Sciences, UVM, 2018-)  
 Anya Steinhart, Awarded Kay Summer Research Award, (Mechanisms of resilience to extreme fresh water events in the variegated sea urchin, UVM, 2017-)

Aubrey Pelletier, Awarded APLE Summer Research Award, Honors College thesis advisor (Genetics and biochemistry of Carbonic anhydrase in the purple sea urchin, UVM, 2017-2019)

Kaitlin Huber, Honors thesis advisor (Impacts of untested, but commonly found plastic leachates on sea urchin development, UVM, 2016-2019)

Rebecca Nesnevech, Awarded APLE Research Award, Honors College undergraduate thesis advisor (Tissue specificity of the microbiome in Sea Star Wasting Disease, UVM, 2015-2018)

Ryan Tartre, Honors College thesis advisor (with Dr. Joe Roman, Fish forensics of community supported fisheries in the Gulf of Maine, UVM, 2016)

Annabel Beichman (Population genetics of targets of selection in the purple sea urchin, Harvard University undergraduate, summer intern, Stanford University, 2010)

Kara Yeung (Population genetics of the cubilin gene in the purple sea urchin, Crystal Springs Uplands School student, summer intern, Stanford University, 2010)

William Moller (Genetics and biochemistry of pyruvate kinase in the purple sea urchin, Stanford University, 2010)

Christa Morris (Reversals in gene flow along the purple urchin species range, Stanford University, 2010)

**Undergraduate research assistants:**

Manali Rege-Colt (B.S. Zoology, UVM, 2019-)

Erika Petterssen (B.S. Environmental Science, Work-study, UVM, 2018-)

Seth Lowell (B.S. Biological Sciences, UVM, 2018-)

Malcolm Hughes (B.S. Microbiology, UVM, 2018-)

Hannah Edmonds (B.A. Biology, UVM, 2018-)

Grace King (B.S. Wildlife Biology, UVM, 2018)

Emma Rosso (B.S. Zoology, UVM, 2016-2017)

Carli Marino (B.A. Biology, UVM, 2015-2016)

**Graduate Student Thesis Committees:**

Suraj Bhattarai (2019-now, Animal Sciences, UVM)

Lauren Ash (2018-now, Biology, UVM)

Amanda Northrop (2018-now, Biology, UVM)

Aayudh Das (2017-now, Ph.D., Plant Biology, UVM)

Hannah Lachance (2017-now, M.S., Rubenstein School, UVM)

Susan Fawcett (2017-now, Ph.D., Plant Biology, UVM)

Laura Caicedo-Quiroga (2017-now, Ph.D., Biology, UVM)

Jennifer Hoey (2017-now, Ph.D., Rutgers University)

François Olivier Hébert (2017, Ph.D., outside examiner, Université Laval)

Brittany Verrico (2017-now, Ph.D., Plant Biology, UVM)

Karl Fetter (2016-now, Ph.D., Plant Biology, UVM)

Korin Eckstrom (2016-2018, M.S., Animal Sciences, UVM)

Judith Keller (2015-now, Ph.D., Biology, UVM)

Kristian Brevik (2015-now, Ph.D., Plant and Soil Sciences, UVM)

**Undergraduate Thesis Committees:**

Heather Schuettner (2017-2018, Honors College, UVM)

Murisa Malagic (2016-2017, Biology, UVM)

Marisa Ng (2015, Honors College, UVM)

**Undergraduate advising:** Meet and/or correspond with approximately 70 advisees from diverse backgrounds and four majors each semester to chart their 4-year plan, discuss course options, major and minor requirements, and career, internship, and study abroad

opportunities. I also write many letters of recommendation and direct students in need to learning and social/emotional resources. I meet with most advisees 1-2 times per semester for 15-60 minutes each.

## ACADEMIC SERVICES

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2018-now	Participant, NSF Research Coordination Network, Evolution in Changing Seas
2017-now	Participant, Sea Star Wasting Disease Strategic Action Network
2017-now	Director, NSF Research Traineeship: Quantitative & Evolutionary STEM Training
2014-now	Faculty participant for Admitted Student Visit Days & Majors Fairs, College of Arts & Sciences, University of Vermont
2014-now	Graduate Affairs Committee, Department of Biology, University of Vermont
2015-2016	BCOR Learning Objectives Assessment Group, University of Vermont
2010	Graduate student participant, Center for Ocean Solutions Faculty Search, Stanford University
2009	Search committee member, Marine Cell Biologist Faculty Search, Stanford University
2007	Lead organizer, Graduate student invited Fall Seminar Series, Stanford University

**Reviewer for:** *Ecology, Science Advances, Trends in Ecology & Evolution, Nature Ecology & Evolution, Nature Climate Change, PLoS Genetics, Proceedings of the National Academy of Sciences, Proceedings B, Molecular Biology & Evolution, Genome Biology & Evolution, Molecular Ecology, Evolutionary Applications, PLoS ONE, Annals of Applied Statistics, Polar Biology, Marine Ecology Progress Series, The American Naturalist, Biology Letters*

**Grant reviewer for:** *National Science Foundation, Natural Environment Research Council (NERC, leading UK funding agency), Fonds de recherche du Québec (Canadian state funding agency), National Geographic Society, Sea Grant, Vermont Genetics Network*

**Society memberships:** Society for the Study of Evolution, Society for Integrative and Comparative Biology, Western Society of Naturalists, Association for the Sciences of Limnology and Oceanography

## SEMINARS & PRESENTATIONS

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### Invited

2020	Society for Integrative and Comparative Biology, Genome-to-Phenome Symposium speaker. Austin, TX.
2019	<i>Invited speaker:</i> Gordon Research Conference: Ecological and Evolutionary Genomics, “Genomics of Rapid Evolution” session, Manchester, NH.
2019	<i>Keynote:</i> NetSci, Invitation to present on and discuss recruitment and retention for diversity in STEM higher education, co-presented with Dr. Vijay Kanagala, Burlington, VT.
2018	Washington State University, Graduate Student Invited Speaker for the School of Biological Sciences Seminar Series. Pullman, WA.
2018	University of Mass., Amherst, Organismic and Evolutionary Biology Seminar Series. Amherst, MA.
2018	Gordon Research Conference: Ocean Global Change Biology, Discussion Leader for “Epigenetics: Providing New Insight in Ocean Global Change Biology.” Waterville, NH.

- 2018 *Keynote*: Gordon Research Symposium, Ocean Global Change Biology, “Spatial and Temporal Scales of Biological Response in Ocean Global Change Biology.” Waterville, NH.
- 2018 *Keynote*: Society for Molecular Biology & Evolution, Ecological Genomics Symposium. Yokohama, Japan.
- 2018 Northeastern University and Marine and Environmental Science Graduate Student Association Graduate Student Invited Speaker. Nahant, MA.
- 2017 Stony Brook University, Graduate Student Invited Speaker for Departmental of Ecology & Evolution Seminar. Long Island, NY.
- 2017 Brown University, Departmental of Ecology and Evolutionary Biology Seminar. Providence, RI.
- 2017 Vermont Advanced Computing Core meeting presentation. Burlington, VT.
- 2017 Université Laval, IBIS Departmental Seminar. Quebec City, Canada.
- 2016 CNRS Evolutionary Genomics Conference (invited from abstract). Roscoff, France.
- 2016 Université Brest, Departmental Seminar. Brest, France.
- 2016 Rutgers University, Departmental Seminar. New Brunswick, NJ.
- 2016 University of Chicago, Department of Ecology and Evolution Seminar. Chicago, IL.
- 2016 Bowdoin College, Departmental Seminar. Brunswick, ME.
- 2016 Marvin Lecture, Plant Biology Departmental Seminar. University of Vermont, Burlington, VT.
- 2015 *Keynote*: Ecological Genomics Symposium. Manhattan, KS.
- 2015 Developmental Biology of the Sea Urchin XXIII, Symposium speaker and session organizer. Woods Hole, MA.
- 2015 Association for the Sciences of Limnology and Oceanography, Symposium speaker. Granada, Spain.
- 2015 Complex Systems Research Group Seminar, University of Vermont. Burlington, VT.
- 2014 University of Connecticut, Department of Marine Sciences Seminar. Groton, CT.
- 2014 McGill University, Department of Biology Seminar. Montreal, Canada.
- 2014 National Academy of Sciences Kavli Symposium on the Genetics of Adaptation. Invited, but session did not occur.
- 2014 Harvard University. Cambridge, MA.
- 2014 Swarthmore College. Philadelphia, PA.
- 2014 University of Oregon, Oregon Institute of Marine Biology. Coos Bay, OR.
- 2014 Washington State University, St. Louis. St. Louis, MO.
- 2014 University of Georgia, Athens. Athens, GA.
- 2013 University of Vermont. Burlington, VT.
- 2013 Sonoma State University. Rohnert Park, CA.
- 2013 University of Central Florida. Orlando, FL.
- 2013 University of South Carolina. Columbia, SC.
- 2013 Georgia Institute of Technology. Atlanta, GA.
- 2013 University of Wyoming. Laramie, WY.
- 2013 Society for Integrative and Comparative Biology, Symposium speaker. San Francisco, CA.
- 2010 Bauer Forum Seminar, Harvard University. Cambridge, MA. Postdoc fellowship offered.
- 2009 Genomic Variation Lab, University of California, Davis. Davis, CA.
- 2007 Partnership for Interdisciplinary Studies of Coastal Oceans. Santa Barbara, CA.
- 2004 FASEB Experimental Biology, Graduate Student Highlights Discussion. Washington D.C.

### **Contributed**

- 2018 Ecology, Evolution, and Environmental Biology, University of Vermont. Burlington, VT.
- 2018 Society for Integrative and Comparative Biology. San Francisco, CA.
- 2017 Society for the Study of Evolution. Portland, OR.
- 2014 Ecology, Evolution, and Environmental Biology, University of Vermont. Burlington, VT.



- 2014 Gordon Research Conference, Ocean Global Change Biology. Waterville Valley, NH.  
 2013 Ecology and Evolution Brown Bag Seminar, Indiana University. Bloomington, IN.  
 2013 Society for the Study of Evolution. Snowbird, UT.  
 2012 Ecology and Evolution Brown Bag Seminar, Indiana University. Bloomington, IN.  
 2011 Society for the Study of Evolution. Norman, OK.  
 2010 Society for the Study of Evolution. Portland, OR.  
 2010 Society for Integrative and Comparative Biology. Seattle, WA.  
 2009 Western Society of Naturalists. Seaside, CA.  
     [Best Student Paper, Honorable mention]  
 2008 Society for the Study of Evolution. Minneapolis, MN.  
 2007 Western Society of Naturalists. Santa Barbara, CA.  
 2006 Western Society of Naturalists. Seattle, WA.  
 2006 Ecology and Evolution Group Seminar. Stanford, CA.  
 2005 Lung Biology Conference, UC, San Francisco. San Francisco, CA.  
 2002 Penn State Summer Research Conference. State College, PA.

## OUTREACH & COMMUNICATION

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- 2019 Interviewed and featured in the VT Quarterly, shared my personal story, linked to my efforts in increasing diversity at UVM. Burlington, VT [\[article\]](#)  
 2019 Supported media coverage of our *Proceedings B* paper on genetic mechanisms of survival to extreme low pH conditions for sea urchin babies: [UVM press release](#), [Lab Roots](#), [NewsWise](#)  
 2019 Interviewed and featured in a special issue on women in STEM in the UVM student-led *The Natural Philosopher* publication. Burlington, VT [\[article\]](#)  
 2018, 2019 Organized a round robin tour of our three lab spaces for three groups of 10 students from five local Community Colleges – the group emphasizes access for first-generation college students. Burlington, VT  
 2018 Organized visit and tour of my research labs for Clarendon Elementary School 5<sup>th</sup> grade student, Summer Cichon, their parent, and the Principal of Clarendon Elementary School to discuss our work on Sea Star Wasting Disease, biological research, and careers in science. Burlington, VT  
 2018 Supported media coverage of *Scientific Reports* paper on Sea Star Wasting Disease: [UVM press release](#), [WCAX TV](#), [Monterey Herald](#), [DW Science](#), [Quartz](#)  
 2018- Faculty mentor in Catamount Commitment – a commitment to mentor incoming first-generation college students from low-income families. Burlington, VT  
 2017 “DNA and Me” – Organized and led active learning session about how our lab studies DNA and how DNA relates to human and ecosystem health for 2<sup>nd</sup>-5<sup>th</sup> grade students at a local elementary school. South Burlington, VT  
 2017 Organized lab visit for Vermont Commons high school marine biology students; students moved through three stations in the molecular lab and the aquaculture labs, and learned about how and why each lab member became passionate about science and has pursued their interests through research. Burlington, VT  
 2017 Science Studio Podcast Interview, Discussion with host Keith Pannell on how and why I became a scientist and why what we do matters. Burlington, VT  
 2017 GRE Alternatives Workshop, Invited participant to improve models for graduate admissions processes that increase retention and diversity in STEM fields. Organized by Northeast Alliance for Graduate Education and the Professoriate (NEAGEP). University of Massachusetts, Amherst, MA

- 2017 [Faculty profile video](#) of Dr. Pespeni as a Scholar-Teacher by UVM University Communications. Burlington, VT
- 2017 Organized campus visit to UVM for all K-5 students from a local school to learn about invertebrate diversity, molecular biology, microscopy, and data collection at four hands-on stations. Burlington, VT
- 2016 Showcase piece for the University of Vermont Quarterly on our sea star wasting disease research. Burlington, VT
- 2015 Worked with Ithaca College Film major on a short video about our ocean acidification research. Burlington, VT
- 2014 Graduate recruitment event to increase diversity in STEM. Organized by Northeast Alliance for Graduate Education and the Professoriate (NEAGEP). University of Massachusetts, Amherst, MA
- 2014 Phone interview on “Life and Life Functions” with high school student from Orchard View Alternative High School in Dutchess County, NY
- 2013 Science communication with the public and media regarding my work on the ability of urchins to evolve in response to ocean acidification; more than 10 interviews with local, national and international magazines, newspapers, and radio stations including *Scientific American*, *New Scientist*, *Science News for Kids*, *Mother Jones*, *Yale Environment 360*, LiveScience.com, TakePart.com, and more.
- 2013 Jim Holland Summer Science Research Program, Helped mentor a college-bound, underrepresented minority high school student in a weeklong intensive research experience. Bloomington, IN
- 2013 Science Olympiad, Developed and led hands-on entomology lab experiences and laboratory tour for middle school students. Bloomington, IN
- 2013 Washington Elementary, Developed and led arthropod diversity hands-on laboratory experience. Bloomington, IN
- 2012-2014 Martin Luther King Jr. Day Diversity in Science at WonderLab, “Real Life Science: Anyone can be a scientist!” Developed beetle diversity outreach program for underrepresented minorities in the sciences. Bloomington, IN
- 2010-2011 McNair Fellow Panelist, Outreach for underrepresented minorities in graduate education. California State University, Monterey Bay, CA
- 2007 Science Communication with Policy Makers Workshop, Hopkins Marine Station of Stanford University, Pacific Grove, CA
- 2007 Science Communication with the Public and Media Workshop, COMPASS, University of California, Santa Cruz, CA
- 2006 Job Shadow Program, Outreach to minority female high school students. Hopkins Marine Station of Stanford University, Pacific Grove, CA
- 2005-2006 Diversity outreach in STEM, BioAIMs, Stanford University, Stanford, CA
- 2005-2006 Teaching Assistant, Ocean Science, Escondido Elementary School, Stanford, CA
- 2000-2002 Teaching Assistant, Physical Sciences, Armstrong Elementary School, Diamond Bar, CA
- 1998-1999 President, Science and Social Responsibility, Student Pugwash USA, University of California, San Diego
- 1997-1999 Chair, Muir Environmental Corps, University of California, San Diego