

# Dr. Casey William Dunn– Curriculum Vitae

## 1 Position and Contact Information

Professor  
Ecology and Evolutionary Biology  
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<http://dunnlab.org/>  
<http://creaturecast.org/>  
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flickr.com – Casey Dunn

## 2 Education

2005 Ph.D. Yale University, Department of Ecology and Evolutionary Biology (With Distinction)  
2003 M.S. Yale University, Department of Ecology and Evolutionary Biology  
1999 B.S. Stanford University, Biological Sciences (Honors, Phi Beta Kappa)

## 3 Professional Appointments

2017–present Professor, Ecology and Evolutionary Biology, Yale University  
2017–present Adjunct Professor, Ecology and Evolutionary Biology, Brown University  
2017–present Curator, Division of Invertebrate Zoology, Peabody Museum, Yale University  
2014–2017 Associate Professor, Ecology and Evolutionary Biology, Brown University  
2010–2014 Manning Assistant Professor, Ecology and Evolutionary Biology, Brown University  
2008–2010 Assistant Professor, Ecology and Evolutionary Biology, Brown University  
2007–2008 Assistant Professor (Research), Ecology and Evolutionary Biology, Brown University  
2005–2007 Postdoctoral Fellow, Kewalo Marine Lab, University of Hawaii

## 4 Completed Publications

### *a. Books/ monographs*

SHD Haddock and CW Dunn. (2010) *Practical Computing for Biologists*. 538 pages. Sinauer Associates. Sunderland, MA. <http://practicalcomputing.org>.

### *b. Chapters in books*

Giribet, G, CW Dunn, GD Edgecombe, A Hejnol, MQ Martindale, and GW Rouse (2009) Assembling the spiralian tree of life (p 52-64) In: *Animal Evolution*. MJ Telford and DTJ Littlewood (eds). Oxford University Press.

Mills, CE, AC Marques, AE Migotto, DR Calder, C Hand, JT Rees, SHD Haddock, CW Dunn, and PR Pugh. (2007) Hydrozoa: Polyps, Hydromedusae, and Siphonophora. In: *The Light & Smith manual: intertidal invertebrates from central California to Oregon*, 4th edition. JT Carlton (ed). University of California Press.

*c. Refereed journal articles*

Munro, C, S Siebert, F Zapata, M Howison, A Damian-Serrano, SH Church, FE Goetz, PR Pugh, SHD Haddock, CW Dunn (2018) Improved phylogenetic resolution within Siphonophora (Cnidaria) with implications for trait evolution. *Molecular Phylogenetics and Evolution*. <http://dx.doi.org/10.1016/j.ympev.2018.06.030>. bioRxiv preprint: <https://doi.org/10.1101/251116>. Git code repository: [https://github.com/caseywdunn/siphonophore\\_phylogeny\\_2017](https://github.com/caseywdunn/siphonophore_phylogeny_2017).

Pugh, PR, CW Dunn, SHD Haddock (2018) Description of *Tottonophyes enigmatica* gen. nov., sp. nov. (Hydrozoa, Siphonophora, Calycophorae), with a reappraisal of the function and homology of nectophoral canals. *Zootaxa* 4415(3):452-472. <https://doi.org/10.11646/zootaxa.4415.3.3>.

Haddock, SHD, Christianson LM, Francis WR, Martini S, Dunn CW, Pugh PR, Mills CE, Osborn KJ, Seibel BA, Choy CA, Schnitzler CE, Matsumoto GI, Messié M, Schultz DT, Winnikoff JR, Powers ML, Gasca R, Browne WE, Johnsen S, Schlining KL, von Thun S, Erwin BE, Ryan JF, Thuesen EV (2018) Insights into the Biodiversity, Behavior, and Bioluminescence of Deep-Sea Organisms Using Molecular and Maritime Technology. *Oceanography* 30:38-47. <https://doi.org/10.5670/oceanog.2017.422>

Dunn, CW, F Zapata, C Munro, S Siebert, A Hejnal (2018) Pairwise comparisons across species are problematic when analyzing functional genomic data. *PNAS*. <http://dx.doi.org/10.1073/pnas.1707515115>. bioRxiv preprint: <https://doi.org/10.1101/107177>. Git code repository: [https://github.com/caseywdunn/comparative\\_expression\\_2017](https://github.com/caseywdunn/comparative_expression_2017).

Helm, RR, CW Dunn (2017) Indoles induce metamorphosis in a broad diversity of jellyfish, but not in a crown jelly (Coronatae). *PLoS One*. <https://doi.org/10.1371/journal.pone.0188601>.

Dunn, CW, C Munro (2016) Comparative genomics and the diversity of life. *Zoologica Scripta* 45:5-13. <http://dx.doi.org/10.1111/zsc.12211>.

Guang, A, F Zapata, M Howison, CE Lawrence, CW Dunn (2016) An Integrated Perspective on Phylogenetic Workflows. *Trends in Ecology and Evolution* 31:116-126. <http://dx.doi.org/10.1016/j.tree.2015.12.007>.

Dunn, CW (2015) Acorn worms in a nutshell. *Nature* 527:448-449. <http://dx.doi.org/10.1038/nature16315>.

Zapata, F, FE Goetz, SA Smith, M Howison, S Siebert, S Church, SM Sanders, CL Ames, CS McFadden, SC France, M Daly, AG Collins, SHD Haddock, CW Dunn, P Cartwright (2015) Phylogenomic analyses support traditional relationships within Cnidaria. *PLoS One* 10(10): e0139068. <http://dx.doi.org/10.1371/journal.pone.0139068>. BioRxiv preprint: <http://dx.doi.org/10.1101/017632>. Git code repository: <https://bitbucket.org/caseywdunn/cnidaria2014>.

Dunn, CW, JT Ryan (2015) The evolution of animal genomes. *Current Opinion in Genetics and Development* 35:25-32. <http://dx.doi.org/10.1016/j.gde.2015.08.006>

Haddock, SH, CW Dunn (2015) Fluorescent proteins function as a prey attractant: experimental evidence from the hydromedusa *Olindias formosus* and other marine organisms. *Biology Open* 4:1094-1104. <http://dx.doi.org/10.1242/bio.012138>.

- Church, SH, JF Ryan, CW Dunn (2015) Automation and Evaluation of the SOWHAT Test of Phylogenetic Topologies with SOWHAT. *Systematic Biology* 64(6):1048-1058. <http://dx.doi.org/10.1093/sysbio/syv055>. BioRxiv preprint: <http://dx.doi.org/10.1101/005264>. Git code repository: <https://github.com/josephryan/sowhat>.
- Laumer, CE, N Bakkouche, A Kerbl, F Goetz, RC Neves, MV Sørensen, RM Kristensen, A Hejnol, CW Dunn, G Giribet, K Worsaae (2015) Spiralian Phylogeny Informs the Evolution of Microscopic Lineages. *Current Biology* 25(15):2000-2006. <http://dx.doi.org/10.1016/j.cub.2015.06.068>.
- Church, SH, S Siebert, P Bhattacharyya, CW Dunn (2015) The Histology of *Nanomia bijuga* (Hydrozoa: Siphonophora). *J. Exp. Zool. (Mol. Dev. Evol.)* 324(5):435-449. <http://dx.doi.org/10.1002/jez.b.22629>. BioRxiv preprint: <http://dx.doi.org/10.1101/010868>.
- Siebert, S, FE Goetz, SH Church, P Bhattacharyya, F Zapata, SHD Haddock, and CW Dunn (2015) Stem Cells in a Colonial Animal with Localized Growth Zones. *EvoDevo* 6:22. <http://dx.doi.org/10.1186/s13227-015-0018-2>. BioRxiv preprint: <http://dx.doi.org/10.1101/001685>. Git code repository: [https://bitbucket.org/caseywdunn/siebert\\_etal](https://bitbucket.org/caseywdunn/siebert_etal).
- Salinas-Saavedra, M, TQ Stephenson, CW Dunn, MQ Martindale (2015) Par system components are asymmetrically localized in ectodermal epithelia, but not during early development in the sea anemone *Nematostella vectensis*. *EvoDevo* 6:20. <http://dx.doi.org/10.1186/s13227-015-0014-6>.
- Helm, RR, S Tiozzo, MKS Lilley, F Lombard, CW Dunn (2015) Comparative muscle development of scyphozoan jellyfish with simple and complex life cycles. *EvoDevo* 6:11. <http://dx.doi.org/10.1186/s13227-015-0005-7>.
- Dunn, CW, SP Leys, SHD Haddock (2015) The hidden biology of sponges and ctenophores. *Trends in Ecology and Evolution* 30:282-291. <http://dx.doi.org/10.1016/j.tree.2015.03.003>.
- Reich, A, CW Dunn, K Akasaka, G Wessel (2015) Phylogenomic Analyses of Echinodermata Support the Sister Groups of Asterozoa and Echinozoa. *PLoS One* 10:e0119627. <http://dx.doi.org/10.1371/journal.pone.0119627>.
- Gonzalez, VL, SCS Andrade, R Bieler, TM Collins, CW Dunn, PM Mikkelsen, JD Taylor, G Giribet (2015) A phylogenetic backbone for Bivalvia: an RNA-seq approach. *Proceedings of the Royal Society B: Biological Sciences* 282:20142332. <http://dx.doi.org/10.1098/rspb.2014.2332>.
- Dunn, CW, G Giribet, GD Edgecombe, A Hejnol (2014) Animal Phylogeny and its Evolutionary Implications. *Annual Review of Ecology, Evolution, and Systematics* 45:371-395. <http://dx.doi.org/10.1146/annurev-ecolsys-120213-091627>.
- Zapata, F, NG Wilson, M Howison, SCS Andrade, KM Jörger, Michael Schrödl, Freya E Goetz, Gonzalo Giribet, Casey W Dunn (2014) Phylogenomic analyses of deep gastropod relationships reject Orthogastropoda. *Proceedings of the Royal Society B: Biological Sciences* 281:1471-2954. <http://dx.doi.org/10.1098/rspb.2014.1739>. BioRxiv preprint: <http://dx.doi.org/10.1101/007039>. Git code repository: <https://bitbucket.org/caseywdunn/gastropoda>.
- Dunn, CW (2014) Reconsidering the phylogenetic utility of miRNA in animals. *PNAS* 111:12576-12577. <http://dx.doi.org/10.1073/pnas.1413545111>.
- Howison, M, F Zapata, EJ Edwards, and CW Dunn (2014) Bayesian genome assembly and assessment by Markov Chain Monte Carlo sampling. *PLoS One* 9:e99497. <http://dx.doi.org/10.1371/journal.pone.0099497>. arXiv preprint: <http://arxiv.org/abs/1308.1388>. Git code repository: <https://bitbucket.org/mhowison/gabi>. Example analysis report: <https://web3.ccv.brown.edu/mhowison/gabi-report/>.

Lopez, J, H Bracken-Grissom, A Collins, T Collins, K Crandall, D Distel, C Dunn, et al. (2014) Global Invertebrate Genomics Alliance (GIGA): Developing Community Resources to Study Diverse Invertebrate Genomes. *Journal of Heredity* 105:1-18. <http://dx.doi.org/10.1093/jhered/est084>

Ryan, JF, K Pang, CE Schnitzler, A Nguyen, RT Moreland, DK Simmons, BJ Koch, WR Francis, P Havlak, NISC Comparative Sequencing Program, SA Smith, NH Putnam, SHD Haddock, CW Dunn, TG Wolfsberg, JC Mullikin, MQ Martindale, AD Baxeavanis (2013) The genome of the ctenophore *Mnemiopsis leidyi* and its implications for cell type evolution. *Science* 432:1242592. <http://dx.doi.org/10.1126/science.1242592>.

CW Dunn, M Howison, and F Zapata (2013) Agalma: an automated phylogenomics workflow. *BMC Bioinformatics* 14:330. <http://dx.doi.org/10.1186/1471-2105-14-330>. arXiv preprint: <http://arxiv.org/abs/1307.6432>. Git code repository: <https://bitbucket.org/caseywdunn/agalma> (software), <https://bitbucket.org/caseywdunn/dunnhowisonzapata2013> (analyses).

Howison, M, F Zapata, CW Dunn (2013) Toward a statistically explicit understanding of *de novo* sequence assembly. *Bioinformatics* 29:2959-2963. <http://dx.doi.org/10.1093/bioinformatics/btt525>.

Siebert, S, PR Pugh, SHD Haddock, CW Dunn (2013) Re-evaluation of characters in Apolemiidae (Siphonophora), with description of two new species from Monterey Bay, California. *Zootaxa* 3702: 201-232. <http://www.mapress.com/zootaxa/2013/f/zt03702p232.pdf>. Accompanying video of new species available at <https://vimeo.com/59928656>.

Dunn, CW, X Luo, Z Wu (2013) Phylogenetic analysis of gene expression. *Integrative and Comparative Biology* 53:847-856. <http://dx.doi.org/10.1093/icb/ict068>. arXiv preprint: <http://arxiv.org/abs/1302.2978>. Git code repository: <https://bitbucket.org/caseywdunn/sicb2013>.

Helm, RR, S Siebert, S Tulin, J Smith, CW Dunn (2013) Characterization of differential transcript abundance through time during *Nematostella vectensis* development. *BMC Genomics* 14:266. <http://dx.doi.org/10.1186/1471-2164-14-266>. Git code repository: [https://bitbucket.org/caseywdunn/helm\\_et\\_al\\_2013](https://bitbucket.org/caseywdunn/helm_et_al_2013).

Howison, M, N Sinnott-Armstrong, CW Dunn (2012) BioLite, a lightweight bioinformatics framework with automated tracking of diagnostics and provenance. 4th USENIX Workshop on the Theory and Practice of Provenance (TaPP12). <https://www.usenix.org/system/files/conference/tapp12/tapp12-final15.pdf> (peer-reviewed conference proceeding).

Smith, SA, NG Wilson, F Goetz, C Feehery, SCS Andrade, GW Rouse, G Giribet, CW Dunn (2011) Resolving the evolutionary relationships of molluscs with phylogenomic tools. *Nature* 480:364-367. <http://dx.doi.org/10.1038/nature10526>.

Siebert, S, MD Robinson, SC Tintori, F Goetz, RR Helm, SA Smith, N Shaner, SHD Haddock, CW Dunn (2011) Differential Gene Expression in the Siphonophore *Nanomia bijuga* (Cnidaria) Assessed with Multiple Next-Generation Sequencing Workflows. *PLoS One* 6(7): e22953. <http://dx.doi.org/10.1371/journal.pone.0022953>.

Edgecombe, GD, G Giribet, CW Dunn, A Hejnol, RM Kristensen, RC Neves, GW Rouse, K Worsaae, and MV Sørensen (2011) Higher-level metazoan relationships: recent progress and remaining questions. *Organisms, Diversity, and Evolution* 11:151-172. <http://dx.doi.org/10.1007/s13127-011-0044-4>.

Hejnol, A, M Obst, A Stamatakis, M Ott, G Rouse, G Edgecombe, P Martinez, J Baguña, X Bailly, U Jondelius, M Wiens, WEG Müller, Elaine Seaver, WC Wheeler, MQ Martindale, G Giribet, and CW Dunn (2009) Assessing the root of bilaterian animals with scalable phylogenomic methods. *Proc. R. Soc. B.* 276:4261-4270. <http://dx.doi.org/10.1098/rspb.2009.0896>. Git repository: [https://bitbucket.org/caseywdunn/hejnol\\_et\\_al\\_2009](https://bitbucket.org/caseywdunn/hejnol_et_al_2009).

Cartwright, P, NM Evans, CW Dunn, AC Marques, MP Miglietta, P Schuchert, and AG Collins (2008) Phylogenetics of Hydroidolina (Hydrozoa: Cnidaria). *Journal of the Marine Biological Association of the United Kingdom* 88:1663-1672. <http://dx.doi.org/10.1017/S0025315408002257>.

Dunn, CW, A Hejnol, DQ Matus, K Pang, WE Browne, SA Smith, E Seaver, GW Rouse, M Obst, GD Edgecombe, MV Sørensen, SHD Haddock, A Schmidt-Rhaesa, A Okusu, RM Kristensen, WC Wheeler, MQ Martindale, and G Giribet (2008) Broad phylogenomic sampling improves resolution of the Animal Tree of Life. *Nature* 452:745-749. <http://dx.doi.org/10.1038/nature06614>. (Cover Article).

Smith, SA and CW Dunn (2008) Phyutility: a phyloinformatics tool for trees, alignments, and molecular data. *Bioinformatics*. 24:715-716. <http://dx.doi.org/10.1093/bioinformatics/btm619>. Code repository: <https://code.google.com/p/phyutility>.

Giribet, G, CW Dunn, GD Edgecombe, and GW Rouse (2007) A modern look at the Animal Tree of Life. *Zootaxa* 1668:61-79.

Oota, H, CW Dunn, WC Speed, AJ Pakstis, MA Palmatier, JR Kidd and KK Kidd (2007) Conservative evolution in duplicated genes of the primate Class I ADH cluster. *Gene* 392:64-76. <http://dx.doi.org/10.1016/j.gene.2006.11.008>.

Dunn, CW and GP Wagner (2006) The evolution of colony-level development in the Siphonophora (Cnidaria:Hydrozoa). *Development, Genes, and Evolution*. 216:743-754. <http://dx.doi.org/10.1007/s00427-006-0101-8> (Cover Article).

Matus, DQ, K Pang, H Marlow, CW Dunn, GH Thomsen, and MQ Martindale (2006) Deep evolutionary roots for bilaterality in the metazoa. *Proceedings of the National Academy of Sciences USA*. 103:11195-11200. <http://dx.doi.org/10.1073/pnas.0601257103>.

Matus, DQ, RR Copley, CW Dunn, A Hejnol, H Eccleston, KM Halanych, MQ Martindale, and MJ Telford (2006) Broad Taxon and Gene Sampling Indicate that Chaetognaths Are Protostomes. *Current Biology*. 16:R575-R576. <http://dx.doi.org/10.1016/j.cub.2006.07.017>.

Dunn, CW, PR Pugh, and SHD Haddock (2005) Molecular phylogenetics of the Siphonophora (Cnidaria), with implications for the evolution of functional specialization. *Systematic Biology* 54:916-935. <http://dx.doi.org/10.1080/10635150500354837> (Cover Article). Git repository: [https://bitbucket.org/caseywdunn/siphonophores\\_2005](https://bitbucket.org/caseywdunn/siphonophores_2005).

Dunn, CW (2005) The complex colony-level organization of the deep-sea siphonophore *Bargmannia elongata* (Cnidaria, Hydrozoa) is directionally asymmetric and arises by the subdivision of pro-buds. *Developmental Dynamics* 234:835-845. <http://dx.doi.org/10.1002/dvdy.20483> (Cover Article).

Haddock, SHD, CW Dunn, PR Pugh and CE Schnitzler (2005) Bioluminescent and red-fluorescent lures in a deep-sea siphonophore. *Science* 309:263. <http://dx.doi.org/10.1126/science.1110441>.

Dunn, CW, PR Pugh, and SHD Haddock (2005) *Marrus claudanielis*, a new species of deep-sea physonect siphonophore (Siphonophora, Physonectae). *Bulletin of Marine Science* 76:699-714.

Haddock, SHD, CW Dunn, and PR Pugh (2005) A reexamination of siphonophore terminology and morphology, applied to the description of two new prayine species with remarkable bio-optical properties. *Journal of the Marine Biological Association of the U.K.* 85:695-707. <http://dx.doi.org/10.1017/S0025315405011616>.

Lynch, VJ, JJ Roth, K Takahashi, CW Dunn, DF Nonaka, G Stopper and GP Wagner (2004) Adaptive evolution of HoxA-11 and HoxA-13 at the origin of the uterus in mammals. *Proceedings of the Royal Society B: Biological Sciences* 271:2201-2207. <http://dx.doi.org/10.1098/rspb.2004.2848>.

*d. Non-refereed journal articles*

Lewis, ZR and CW Dunn. (2018) Genome evolution: We are not so special. eLife. <http://dx.doi.org/10.7554/eLife.38726>. Git code repository: [https://github.com/dunnlab/gene\\_inventory\\_2018](https://github.com/dunnlab/gene_inventory_2018).

Dunn, CW (2017) Ctenophore trees. *Nature Ecology and Evolution*. <http://dx.doi.org/10.1038/s41559-017-0359-4>

Hejnol, A, CW Dunn (2016) Animal Evolution: Are Phyla Real? *Current Biology* 26:R424-R426. <http://dx.doi.org/10.1016/j.cub.2016.03.058>.

Dunn, CW (2014) Keeping Mates Close and Competition Out in an Ocean Sponge, November 13, 2014. <http://www.nytimes.com/2014/11/13/science/keeping-mates-close-and-competition-out-in-an-ocean-sponge.html>

Dunn, CW (2014) Fiery Bodies Under the Waves. *New York Times*, August 14, 2014. <http://www.nytimes.com/2014/08/14/science/a-colonizing-fire-of-giant-plankton.html>

Dunn, CW (2014) A Marine Magician's Vanishing Act. *New York Times*, May 28, 2014. <http://www.nytimes.com/2014/05/28/science/a-marine-magicians-vanishing-act.html>

Dunn, CW (2014) A Cloak of Near Invisibility in an Underwater World. *New York Times*, April 24, 2014. <http://www.nytimes.com/2014/04/24/science/a-cloak-of-near-invisibility-in-an-underwater-world.html>

Dunn, CW (2014) Two Urchins, Similar but Not. *New York Times*, February 26, 2014. <http://www.nytimes.com/2014/02/26/science/two-urchins-similar-but-not.html>

Dunn, CW (2014) Poisonous Prey Turned Into Hunter's Defense. *New York Times*, February 12, 2014. <http://www.nytimes.com/2014/02/13/science/poisonous-prey-turned-into-hunters-defense.html>

Dunn, CW (2014) Moving, Without Feet to Do So. *New York Times*, January 23, 2014. <http://www.nytimes.com/2014/01/23/science/earth/moving-without-feet-to-do-so.html>

Dunn, CW (2013) The Color of Royalty, Bestowed by Science and Snails. *New York Times*, October 9, 2013. <http://www.nytimes.com/2013/10/09/science/the-color-of-royalty-bestowed-by-science-and-snails.html>

Dunn, CW (2013) As 'Normal' as Rabbits' Weights and Dragons' Wings. *New York Times*, September 23, 2013. <http://www.nytimes.com/2013/09/24/science/as-normal-as-rabbits-weights-and-dragons-wings.html>

Dunn, CW (2013) Sex in Spoonworms. *New York Times*, September 16, 2013. <http://www.nytimes.com/2013/09/17/science/creatures-strange-and-complex-in-colorful-detail.html> (the text I wrote accompanies the video).

Dunn, CW (2013) Evolution: Out of the ocean. *Current Biology* 23:R242-R243. <http://dx.doi.org/10.1016/j.cub.2013.01.067>.

Dunn, CW (2009) Siphonophores. *Current Biology* 19:R233-R234. <http://dx.doi.org/10.1016/j.cub.2009.02.009>.

Haddock, SHD and CW Dunn (2005) The complex world of siphonophores. *JMBA Global Marine Environment* 2005(2):24-25.

*f. Abstracts*

Dunn, CW (2013) The comparative biology of gene expression. Invited speaker for the symposium "Understanding First Order Phenotypes: Transcriptomics for Emerging Models" at the 2013 meeting for the Society of Integrative and Comparative Biology. Abstract S4-2.1. <http://www.sicb.org/meetings/2013/SICB%202013%20abstracts.pdf>.

Helm, RR and CW Dunn (2013) The evolution of direct development in Scyphozoa. A poster presented at the 2013 meeting for the Society of Integrative and Comparative Biology. Abstract P1.58. <http://www.sicb.org/meetings/2013/SICB%202013%20abstracts.pdf>.

*g. Invited lectures*

- 2018 UC Davis Department of Evolution and Ecology, University of Guelph Department of Integrative Biology
- 2017 Harvard Department of Organismal and Evolutionary Biology graduate student invited speaker, University of Alabama Allele Series speaker, Missouri Botanical Garden Annual Fall Symposium invited speaker, University of Texas
- 2016 Stanford University Abbott Lecture, Ctenopalooza (University of Florida) Keynote Speaker, University of Maryland BISI-BEES seminar student invited speaker, Blavatnik Science Symposium (New York Academy of Sciences), Yale University Department of Ecology and Evolutionary Biology, Boston Evolutionary Genomics Supergroup meeting at Harvard
- 2015 Gordon Research Conference, Friday Harbor Marine Laboratory, Systematics and Biodiversity Symposium at the Norwegian Academy of Sciences and Letters, University of Rhode Island
- 2014 Universidad Austral de Chile (Valdivia, Chile), Bowdoin College (Brunswick, Maine), University of Missouri, Evolution of First Nervous Systems II meeting (Whitney Laboratory for Marine Bioscience, Florida), 13th Annual Genome Symposium (New York University), Kyushu University (Fukuoka, Japan)
- 2013 American Museum of Natural History, Global Invertebrate Genomics Alliance (GIGA) workshop at Nova University (Fort Lauderdale, FL), meeting of the Centre National de Ressources Biologiques Marines, EMBRC (Villefranche, France), Brown Department of Ecology and Evolutionary Biology Seminar, Brown Computer Science Department Industrial Partners Program Symposium, Tree of Life Symposium at the 2013 meeting of the Society of Systematic Biologists (title: "Building trees with transcriptomes and analyzing transcriptomes with trees"), Brown EPSCoR Bioinformatics Workshop
- 2012 World Economic Forum Annual Meeting (Davos, Switzerland), Smithsonian Tropical Research Institute (Panama), Sars International Centre for Marine Molecular Biology (Bergen, Norway), Clark University, University of Miami, Stony Brook University, Applied Math at Brown University, University of Florida
- 2011 National Science Board, (Washington, DC), National Science Foundation (Washington, DC), Marine Biological Laboratory (Woods Hole, MA), Boston University (Boston, MA), Marine Observatory at Villefranche-sur-Mer (France), Smithsonian National Museum of Natural History Department of Invertebrate Zoology (Washington, DC), Smithsonian National Museum of Natural History - Symposium "Next generation Sequencing: Transformative Technology for Biodiversity Science", keynote speaker at the Brown University Communicating Your Science Workshop, Rhode Island College
- 2010 Harvard University, University of Gothenburg (Sweden), Iowa State University, Brown University Wayland Collegium, Helicos BioSciences, National Academy of Science "Kavli Frontiers of Science" meeting, PopTech, University of Texas at Austin

- 2009 Yale University, University at Buffalo, LM University Munich, meeting of the German Research Foundation Priority Program “Deep Metazoan Phylogeny” at Humboldt University Berlin, University of Connecticut, Harvard University course OEB275r: “Phylogenetics in the Era of Genomics”, University of Rhode Island, Barcelona University, Brown MCB, invited speaker at the Society for Systematic Biologists symposium “Advances in Tree Reconstruction from Complex Data Matrices” in Moscow, Idaho
- 2008 University of Rochester, Friday Harbor Marine Laboratory, Woods Hole Oceanographic Institute, New England Biolabs
- 2007 Harvard University, Roger Williams University
- 2005 University of Hawaii

### *i. Work in review*

This section includes publicly available preprints.

### *j. Patents and inventions*

- 2016 US Patent number 9,330,295. “Spatial sequencing/gene expression camera”

### *i. Work in progress*

This list includes selected manuscripts that are close to submission. The author lists and journals may change prior to publication.

F Zapata, S Siebert, F Goetz, SHD Haddock, PR Pugh, CW Dunn (in preparation) The phylogenetic relationships of Siphonophora (Cnidaria) based on broadly-sampled transcriptome data. To be submitted to *Molecular Phylogenetics and Evolution*.

## 5 Research Grants

### *a. Current grants*

Alan T. Waterman Award, NSF, May, 2011. \$500,000 (no indirect charges)

“Real Time Phylogeny and Contact Tracing to Disrupt HIV Transmission”, NIH R01, subcontract via Miriam Hospital, 2018-2023. \$214,801

### *b. Completed grants*

“Inferring HIV Transmission Networks from Deep Viral Phylogenies”, Center for AIDS Research, January 1, 2017 - December 31, 2017, \$40,000, Principal Investigator.

“The evolution of gene expression and functional specialization in Siphonophora (Cnidaria)”, NSF, March 2013- March 2017. \$700,000, Principal Investigator.

“Extended phylogenetic Inference of HIV Transmission Network”, Brown University BioMed Emerging Areas of New Science Deans Awards, 2014-2015. \$80,000, co-Principal Investigator with Rami Kantor.



“Making sense of the data windfall: New statistical approaches to evolutionary analyses of gene expression”, Brown University Office of the Vice President of Research, 2013-2014. \$100,000, co-Principal Investigator with Xi Luo and Zhijin Wu.

“Collaborative Research: Resolving old questions in Mollusc phylogenetics with new EST data and developing general phylogenomic tools”, NSF, submitted July 2008, February 2009- January 2013. \$450,000 (\$775,000 total), Principal Investigator.

“IGERT: Reverse Ecology: Computational Integration of Genomes, Organisms and Environments”, NSF, submitted September, 2009. Participant.

Brown/MBL Seed Fund Award (with Joel Smith). \$12,500. Funded August, 2010.

“Phylogenetic analyses of quantitative differential expression data” Brown CCMB Seed fund. \$5,000. Funded October, 2010.

“PSCIC Full Proposal: The iPlant Collaborative: A Cyberinfrastructure-Centered Community for a New Plant Biology”, NSF, subcontract via University of Arizona, July 1, 2009 – June 30, 2012. \$257,762.

“DISSERTATION RESEARCH: Phylogeny and the Evolution of Colony Organization in the Siphonophora, Cnidaria”, NSF, June 1, 2004 – December 31, 2005, \$11,985, Co-Principal Investigator.

*c. Proposals submitted (other than above)*

“Collaborative Research: Phylogenetic approaches to comparative functional genomics”, NSF, submitted August 2017 (declined). Principal Investigator.

“COLLABORATIVE RESEARCH: ABI Innovation: Statistical measures of uncertainty and heterogeneity for phylogenetic analysis of genomic data”, NSF, submitted September 2017 (pending). co-Principal Investigator.

“Preliminary Proposal: Collaborative Research: RUI: An integrated phylogenomic analysis of animal gene family evolution”, NSF, submitted January 2016 (declined). co-Principal Investigator.

“Blavatnik - Awards for Young Scientists”, nominated November 2015 (declined)

“HHMI - Faculty Scholars Competition”, July 2015 (declined)

“Data-Driven Discovery Initiative”, Betty and Gordon Moore Foundation preproposal, submitted March 2014 (my preproposal was one of the 93 that was selected for a full proposal from the 1095 submitted; my full proposal declined). Principal Investigator.

“ABI Innovation: The theory, implementation, and application of Bayesian transcriptome assembly”, NSF, submitted August 2014 (declined). Principal Investigator.

“IOS Preliminary proposal: The colony-level development of Siphonophora (Cnidaria)”, NSF, submitted January 2014 (declined). Principal Investigator.

“IOS Preliminary Proposal: Collaborative Research: Identifying the genomic and transcriptomic basis for bioluminescence and light detection in ctenophores”, NSF, submitted January 2014 (declined). co-Principal Investigator.

“ABI Innovation: Bayesian genome assembly and assessment by Markov Chain Monte Carlo sampling”, NSF, submitted August 2013 (declined). Principal Investigator.

“DISSERTATION RESEARCH: The evolution of complex lifecycles in Scyphozoa”, NSF, submitted November 2012 (declined). Principal Investigator.

“Collaborative Proposal: Assembling the Animal Tree of Life”, NSF, submitted March, 2012 (declined). \$1,301,662. Principal Investigator.

“The evolution of gene expression and functional specialization in siphonophora (Cnidaria)”, NSF, submitted January 10, 2011 (declined). \$777,916.

“Packard fellowship”, Packard Foundation, submitted April 8, 2010 (declined). \$875,000. Principal Investigator.

W. M. Keck Foundation Medical Research Program Preproposal, submitted April, 2010 (declined). \$993,339. Principal Investigator.

“Untangling the Genotype-Phenotype Map With Phylogenetic Investigations of Gene Expression”, Pew Charitable Trusts, submitted November 2, 2009 (declined). \$240,000. Principal Investigator.

“Collaborative Research: Emergence of the Germ Line from Mesoderm: A Transcriptome Approach to Cell Type Specification and Evolution”, NSF, submitted June 13, 2009 (declined), \$382,889. Principal Investigator.

“Packard fellowship”, Packard Foundation, submitted April 20, 2009 (declined). \$875,000. Principal Investigator.

“Collaborative Research: Assembling the Animal Tree of Life: Resolving the root and key nodes”, NSF, submitted March 20, 2009 (declined). \$600,574. Principal Investigator.

“Collaborative Research: Resolving old questions in Mollusc phylogenetics with new EST data and developing general phylogenomic tools”, NSF, submitted January 7, 2008 (declined). \$616,170. Principal Investigator.

“PEET: Monographic studies and taxonomic training on Siphonophora (Cnidaria)”. NSF, submitted March 5, 2007 (declined). \$750,000. Principal Investigator.

## 6 Service

### 6.1 To the University

- |      |  |
|------|--|
| 2018 | Biological Sciences Advisory Committee (July 1, 2018, to June 30, 2020), Peabody Exhibits Committee<br>The following were at Brown University:   |
| 2016 | Served on the Digital Teaching and Learning Committee, Director of the COBRE Computational Biology Core  |
| 2014 | Served on the Steering Committee for the Brown Genomics Core Facility, served on the Advisory Board for the Brown Center for Computation and Visualization, maintained department website for EEB, served on the the provost’s committee to explore RISD/Brown collaboration, guest lecture in BIOL2010  |
| 2013 | Served on the University Strategic Planning Committee on Online Teaching and Learning, served on the Steering Committee for the Brown Genomics Core Facility, served on the Advisory Board for the Brown Center for Computation and Visualization, assisted in the creation of a new department website for EEB, served on the the provost’s committee to explore RISD/Brown collaboration |

- 2012 Participated in the Strategic Planning Sessions for the Program in Biology, served on the University Strategic Planning Committee on Online Teaching and Learning, served on the Steering Committee for the Brown Genomics Core Facility, served on the Advisory Board for the Brown Center for Computation and Visualization, presented at the Academic Technology Showcase, filed New Invention Disclosures (Tech ID 2157, 2174)
- 2011 Co-directed the Center for Computational Molecular Biology “Genome Assembly Special Forces Workshop”, member of the CCV Advisory Board for High Performance Computing, member of the Illumina steering committee, was a presenter to the visiting World Economic Forum panel, presented to the Medical School Advisory Council
- 2010 Directly involved in hiring a bioinformatician in BioMed, faculty representative on panel to redesign the Brown home page, played an active role (including technical support in the lab) on the selection of a next-generation sequencer for the NIH SIG award, member of the CCV Advisory Board for High Performance Computing, member of the Illumina steering committee, participated in the EEB internal departmental review. Teaching and mentorship: sophomore advisor to two undergraduate students, MCB trainer.
- 2009 Participated in the OVPR sponsored “Brown Research Data Storage Focus Group”, provided assistance with NIH SIG proposal for a next-generation DNA sequencer, participated in discussions with IBM regarding High Performance Computing acquisition, panel member at the Sheridan Center roundtable “UTRAs – Integrating Research and Teaching in the Life & Physical Sciences”, joined the CCV Advisory Board for High Performance Computing at the invitation of the Vice President for Research, played an active role in next-generation sequencing platform selection for NIH SIG Award. Teaching and mentorship: was a sophomore advisor to two students, became a graduate student trainer in MCB, organized a special campus-wide presentation by the science writer Carl Zimmer sponsored by EEB, BIBS, and ECI
- 2008 Assisted in the preparation of a Rhode Island EPSCoR proposal for next generation sequencing and downstream computational analyses; Participated in discussions with IBM to develop supercomputing resources at Brown

## 6.2 *To the profession*

### Editorial

- 2015 Guest editor at Proceedings of the National Academy of Science USA (PNAS)
- 2014 Guest editor at Proceedings of the National Academy of Science USA (PNAS), co-hosted (with Chris Pires) the Society for Systematic Biologists symposium “Phylogenomics, transcriptomics, and the evolution of gene expression” at the annual Evolution meeting
- 2012-present Member of the editorial board of the Journal of Experimental Zoology Part B: Molecular and Developmental Evolution

### Journal Reviews

- 2018 Systematic Biology, Nature, Current Biology, Nature Ecology and Evolutionary Biology, Molecular Biology and Evolution, PeerJ, Organisms Development and Evolution
- 2017 Systematic Biology, Nature, Nature Ecology and Evolution, Nature Scientific Reports, BMC Evolutionary Biology
- 2016 Systematic Biology, Nature Scientific Reports, Current Biology, Journal of Experimental Zoology Series B, BMC Evolutionary Biology, eLIFE, PNAS
- 2015 PNAS, Current Biology, Nature Communications, EvoDevo, Systematic Biology, Proceedings of the Royal Society Series B, Nature Protocols, Nature, Zootaxa

- 2014 PLoS Currents, PNAS
- 2013 BMC Genomics, Nature, Genome Biology and Evolution, Current Biology, PLoS One, Molecular Biology and Evolution
- 2012 Nature, PNAS, Bioinformatics, Current Biology, Molecular Reproduction and Development
- 2011 Current Biology, Molecular Biology and Evolution, Evolutionary Ecology, Mitochondrial DNA, PLoS One
- 2010 Proceedings of the National Academy of Sciences (USA), Current Biology, BMC Evolutionary Biology, BMC Bioinformatics, PLoS Biology, Molecular Phylogenetics and Evolution, Trends in Genetics, Biology Letters
- 2009 Nature, Molecular Biology and Evolution, Current Biology, Zootaxa, BMC Evolutionary Biology, Molecular Phylogenetics and Evolution
- 2008 Current Biology, BMC Evolutionary Biology, Systematic Biology, Proceedings of the Royal Society B, Journal of the Marine Biological Association of the United Kingdom, Caribbean Journal of Science, Deep-Sea Research Part I, Journal of Molecular Biology, Bioinformatics
- 2007 Developmental Dynamics, Hydrobiologia, Integrative and Comparative Biology, JEZ Part B: Molecular and Developmental Evolution, Journal of the Marine Biological Association of the UK, Systematics and Biodiversity, Zoologica Scripta, Zootaxa

#### Grant Reviews and Funding Agency Activities

- 2016 Served on the NSF Evolution of Developmental Mechanisms grant review panel
- 2015 Reviewed proposals for NSF
- 2014 Served on the NSF Phylogenetic Systematics grant review panel
- 2013 German-Israeli Foundation for Scientific Research and Development (GIF), NSF
- 2012 Reviewed proposals for NSF, Israel Science Foundation, Sloan Foundation
- 2011 Reviewed multiple NSF grant proposals
- 2010 Reviewed multiple NSF grant proposals, reviewed grant proposal for the United Kingdom Biotechnology And Biological Sciences Research Council
- 2009 Grant review panelist for the NSF Systematic Biology and Biological Inventories Cluster, participant in the NSF workshop "Future Directions in Biodiversity and Systematics Research"
- 2008 Reviewed an NSF grant proposal, assisted the NSF with a special report on jellyfish

#### Other Activities

- 2016-present Treasurer of the Society of Systematic Biologists
- 2013-2016 Member of the supervisory board of the Neptune Consortium (<http://neptune-itn.eu/>), a multi-institution evolutionary developmental biology and neurobiology training network funded by the European Union
- 2012 Served as a faculty member for the PopTech Science Fellows Program

### 6.3 To the community

- 2012 Participation in the World Economic Forum Meeting at Davos
- 2011 Furthered development of creaturecast.org, hosted a RISD class in my lab

- 2010 Furthered development of creaturecast.org, which continues to have wide distribution. Videos have now been viewed over 200,000 times, the site is cross posted by nature.com. Interviewed or had work featured in magazines for a public audience, including Brown Alumni Magazine, Brown Medicine Magazine, The Scientist
- 2009 Launched creaturecast.org, a collaborative blog and podcast series aimed at communicating biological research to a broad audience. It has been featured on National Public Radio, iTunes, Voice of America, and at a wide variety of other outlets. Videos produced as part of this project have been viewed more than 100,000 times.
- 2008 Reviewed portions of the introductory Biology textbook “Life: The Science of Biology, 8th Edition” (Sinauer and Associates) for the editor
- Previous I wrote and maintain siphonophores.org, a web site that provides an introduction to siphonophore biology for general and scientific audiences. Siphonophores.org was featured in the August 12, 2005 NetWatch section of Science.

#### 6.4 Selected media, reviews of work, and press engagement

- 2017 Interviewed for “Ecologists protest sudden end of NSF dissertation grants”. *Science*, June, 2017.(<http://www.sciencemag.org/news/2017/06/ecologists-protest-sudden-end-nsf-dissertation-grants>)
- 2017 Interviewed for “Big data renews fight over animal origins”. *Nature*, March 24, 2017.(<http://www.nature.com/news/big-data-renews-fight-over-animal-origins-1.21703>)
- 2015 Interviewed for “Is That a Colony of Conjoined Twins or a Single Sea Creature?”. *The Atlantic*, September 4, 2015.(<http://www.theatlantic.com/technology/archive/2015/09/living-jet-engines-colony-403816/>)
- 2015 Article that features our paper on fluorescent lures. “Light show lures prey”. *Nature*, August 12, 2015.(<http://www.nature.com/nature/journal/v524/n7564/full/524138a.html>)
- 2015 Article that features our paper on fluorescent lures. Randall, Ian. “Slideshow: Glowing predators of the deep”. *Science*, August 7, 2015.(<http://dx.doi.org/10.1126/science.aac8986>)
- 2015 Article that features our analysis of siphonophore data using the Amazon cloud. Drake, Nadia. “How to catch a cloud”. *Nature*, June 3, 2015.(<http://www.nature.com/news/how-to-catch-a-cloud-1.17672>)
- 2015 Article about our paper on sponges and ctenophores. Yong, Ed. “Consider the Sponge”. *New Yorker Elements*, April 24, 2015.(<http://www.newyorker.com/tech/elements/consider-the-sponge>)
- 2014 Article about a new group of animals. Skinner, Nicole. “Sea creatures add branch to tree of life”. *Nature*, September 3, 2014.(<http://dx.doi.org/10.1038/nature.2014.15833>)
- 2014 Interviewed for Zimmer, Carl. “Strange Findings on Comb Jellies Uproot Animal Family Tree”. *National Geographic*, May 21, 2014. (<http://news.nationalgeographic.com/news/2014/05/140521-comb-jelly-ctenophores-oldest-animal-family-tree-science/>)
- 2014 Article about ctenophore research and the evolution of complexity. Maxmen, Amy. “Evolution, You’re Drunk”. *Nautilus*, January 30, 2014. (<http://nautil.us/issue/9/time/evolution-youre-drunk/>)
- 2014 Article about ctenophore research. Nadboy, Jason. “Humans most distant animal relative found”. *Brown Daily Herald*, January 29, 2014. (<http://www.browndailyherald.com/2014/01/29/humans-distant-animal-relative-found/>)
- 2013 Interviewed on Rhode Island Public Radio about ctenophore research. (<http://ripr.org/post/local-comb-jelly-our-closest-ancient-relative>)
- 2013 Interviewed for Barber, Elizabeth. “Is your oldest sister a warty comb jelly?”. *The Christian Science Monitor*, December 12, 2013. (<http://www.csmonitor.com/Science/2013/1212/Is-your-oldest-sister-a-warty-comb-jelly>)

- 2013 Interviewed for Karberg, Sascha. "Evolution der Tiere: Am Anfang war der Glibber". *Der Spiegel*, December 13, 2013. (<http://www.spiegel.de/wissenschaft/natur/rippenquallen-genom-entschluesselt.html>)
- 2013 Article about CreatureCast. "Animals Get the Spotlight in CreatureCast". *Science*, October 18, 2013. (<http://www.sciencemag.org/content/342/6156/294.3.full>)
- 2013 Article about CreatureCast. Friedmann, Meghan. "CreatureCast videos featured on NY Times website". *Brown Daily Herald*, October 2, 2013. (<http://www.browndailyherald.com/2013/10/02/creaturecast-videos-featured-ny-times-website/>)
- 2013 Article about CreatureCast. DelViscio, Jeffrey. "Creatures, Strange and Complex, in Colorful Detail". *New York Times*, September 16, 2013. (<http://www.nytimes.com/2013/09/17/science/creatures-strange-and-complex-in-colorful-detail.html>)
- 2013 Interviewed, and published photographs, for Maxmen, Amy. "Transcriptomics for the Animal Kingdom". *The Scientist*, July 1, 2013. (<http://www.the-scientist.com/?articles.view/articleNo/36132/title/Transcriptomics-for-the-Animal-Kingdom/>)
- 2013 Published photograph "Evolutionary enigmas". *Science News*, May 18, 2013. ([http://www.sciencenews.org/view/feature/id/350120/description/Evolutionary\\_enigmas](http://www.sciencenews.org/view/feature/id/350120/description/Evolutionary_enigmas))
- 2013 Interviewed about the ctenophore genome. Pennisi, Elizabeth. "Nervous System May Have Evolved Twice". *Science*, January 25, 2013 (<http://www.sciencemag.org/content/339/6118/391.1.full>)
- 2012 A review of my book, Practical Computing for Biologists. Aiello-Lammens, M. "Practical Computing for Biologists". *Q. Rev. Biol.* 87, 372. 2012. (<http://www.jstor.org/stable/10.1086/668128>)
- 2012 Interviewed for an article about 3D printing. Joselow, Maxine. "MakerBot printer transforms 2-D images into plastic models". *Brown Daily Herald*, October 16, 2012. (<http://goo.gl/RZgRo>)
- 2012 Seven episodes from creaturecast.org were selected for the 2012 Imagine Science Film Festival (<http://www.imaginesciencefilms.org/festival/2012-films/>)
- 2012 Interviewed about the World Economic Forum meeting in Davos, Switzerland. Paumgarten, Nick. "Magic Mountain". *The New Yorker*, March 5, 2012. ([http://www.newyorker.com/reporting/2012/03/05/120305fa\\_fact\\_paumgarten](http://www.newyorker.com/reporting/2012/03/05/120305fa_fact_paumgarten))
- 2012 Article about research "Decoding the family Tree" *Division of Biology and Medicine 2010-2011 Annual Report* (<http://biomed.brown.edu/download/Biomed-Annual-Report.pdf>)
- 2011 Article about mollusk research. Brown, Mark. "Squid to Snail: Biologists complete mollusk evolutionary tree". *Wired UK*, October 27, 2012. (<http://www.wired.co.uk/news/archive/2011-10/27/mollusk-evolutionary-tree>)
- 2011 Article about mollusk research. Weinstein, Michael. "Mollusc family tree pruned". *Brown Daily Herald*, October 27, 2011 (<http://www.browndailyherald.com/mollusc-family-tree-pruned-1.2661151>)
- 2011 Interviewed about art and science. Kim, Carol. "Art for the sake of science". *Brown Daily Herald*, October 13, 2011. (<http://www.browndailyherald.com/art-for-the-sake-of-science-1.2652480>)
- 2011 Article about creaturecast.org Long, Katherine. "Acclaimed video podcast narrates nature's quirks" *Brown Daily Herald*, October 5, 2011. (<http://goo.gl/0KGqJ>)
- 2011 Interviewed about timing of animal evolution. Millius, Susan. "Biology's big bang had a long fuse". *Science News*, December 31, 2011 <http://goo.gl/4npj9>

- 2011 Interviewed for article about social media and careers. *Gewen, Virginia*. "Social media: Self-reflection, online". *Nature*, March 30, 2011. (<http://www.nature.com/naturejobs/science/articles/10.1038/nj7340-667a>)
- 2011 A review of my book, Practical Computing for Biologists. *Troyanskaya, Olga*. "Don't Fear the Command Line!". *Cell*, March 18, 2011. (<http://dx.doi.org/10.1016/j.cell.2011.02.042>)
- 2011 Video interview at the National Science Foundation for the Waterman Award. (<http://goo.gl/VEi9b>)
- 2011 NSF press release for Waterman Award ceremony. ([http://www.nsf.gov/news/news\\_summ.jsp?cntn\\_id=119530](http://www.nsf.gov/news/news_summ.jsp?cntn_id=119530))
- 2011 NSF press release for Waterman Award. ([http://www.nsf.gov/news/news\\_summ.jsp?cntn\\_id=118915](http://www.nsf.gov/news/news_summ.jsp?cntn_id=118915))
- 2011 Interviewed for article about slime molds. *Akst, Jef*. "Unexpected slime mold complexity". *The Scientist*, March 10, 2011. (<http://www.the-scientist.com/?articles.view/articleNo/29586>)
- 2011 Interviewed for article about multicellularity. *Akst, Jef*. "From Simple To Complex". *The Scientist*, January 1, 2011. (<http://www.the-scientist.com/?articles.view/articleNo/29430/>)
- 2011 News focus highlighting genomic work. *Pennisi, Elizabeth*. "Tracing the Tree of Life". *Science*, February 25, 2011 (<http://www.sciencemag.org/content/331/6020/1005.2.full>)
- 2010 Video of presentation at PopTech 2010 (<https://vimeo.com/16397879>)
- 2010 PopTech Quick Take Video, produced as part of the PopTech Science Fellows program ([http://poptech.org/popcasts/quick\\_takes\\_casey\\_dunn](http://poptech.org/popcasts/quick_takes_casey_dunn))
- 2010 Video of presentation at the Kavli Frontiers of Science Symposium (<https://vimeo.com/31010067>)
- 2010 Published photograph "Big Shot: Nature's Pincushion". *Brown Medicine Winter 2010* (<http://goo.gl/vQq1z>)
- 2010 Article about creaturecast.org *Cambra, Kris*. "Creature Feature". *Brown Medicine, Fall 2010* (<http://goo.gl/C0gXm>)
- 2010 Article about creaturecast.org *Urban, Lauren*. "Creature cast". *The Scientist*, March 26, 2010 (<http://www.the-scientist.com/?articles.view/articleNo/28881/title/Creature-cast/>)
- 2010 Research featured as one of the top 100 science stories of the year. *Ruvinsky, Jessica*. "Top 100 Stories of 2009 #43: Five Big Additions to Darwin's Theory of Evolution". *Discover Magazine*, January–February 2010. (<http://discovermagazine.com/2010/jan-feb/44>)
- 2010 creaturecast.org feature. *Visible Insight: EPSCOR Collaboration in Rhode Island 2009–2010*. <http://expspace.risd.edu/?research=visible-insight>
- 2009 Published photograph. *Roach, John*. "NewGreen Bombe Sea Worms Fire Glowing Blobs". *National Geographic News*, August 20, 2009. (<http://news.nationalgeographic.com/news/2009/08/photogalleries/worms-glowing-bombs-green-pictures/>)
- 2009 creaturecast.org featured on National Public Radio's Science Friday (<http://www.npr.org/templates/story/story.php?storyId=112752248>)
- 2009 Published photograph. *Fountain, Henry*. "New Find in the Pacific: Worms With Glow Sticks". *New York Times*, August 25, 2009. (<http://goo.gl/wcfx0>)
- 2009 Research featured as one of the top 100 science stories of the year. *Rice, Jocelyn*. "Top 100 Stories of 2008 #98: You're More Like a Sponge Than a Comb Jelly". *Discover Magazine*, January 2009. <http://discovermagazine.com/2009/jan/098>

- 2008 Article about animal phylogeny research. Zimmer, Carl. "The tree of life continues to evolve". *Boston Globe*, April 28, 2008. [http://www.boston.com/news/science/articles/2008/04/28/tree\\_of\\_life\\_continues\\_to\\_evolve/](http://www.boston.com/news/science/articles/2008/04/28/tree_of_life_continues_to_evolve/)
- 2008 Article about animal phylogeny research. Maxmen, Amy. "Comb Jellies Take Root in a New Tree of Animal Life". *Science, News* April 5, 2008. <http://www.jstor.org/stable/20465384>
- 2008 Interviewed for article about jellyfish. Dance, Amber. "How the jellyfish got its sting". *Nature News*, September 28, 2008. (<http://www.nature.com/news/2008/080928/full/news.2008.1134.html>)
- 2008 Interviewed for article about Trichoplax genome. Pennisi, Elizabeth. "'Simple' Animal's Genome Proves Unexpectedly Complex". *Science*, August 22, 2008. (<http://www.sciencemag.org/content/321/5892/1028.2.full>)
- 2008 Interviewed for article about genome sequencing. Pennisi, Elizabeth. "Building the Tree of Life, Genome by Genome". *Science*, June 27, 2008. (<http://www.sciencemag.org/content/320/5884/1716.full>)
- 2005 Published photograph (in print edition of article). Mallon, Thomas. "Do jellyfish rule the world?" *Discover Magazine*, September 2007. <http://discovermagazine.com/2007/sep/do-jellyfish-rule-the-world>
- 2005 Published photograph. Braun, David. "Blind Sea Creature Hunts With Light". *National Geographic News*, July 7, 2005. [http://news.nationalgeographic.com/news/2005/07/0707\\_050708\\_redlight.html](http://news.nationalgeographic.com/news/2005/07/0707_050708_redlight.html)
- 2005 Article about siphonophore study. Broad, William J. "Cousin of the Jellyfish Spurs Fresh Theories on Seeing Red". *The New York Times*, July 12, 2005. (<http://www.nytimes.com/2005/07/12/science/12red.html>)
- 2005 Article about siphonophore study. Simonite, Tom. "Jellyfish capture prey with crimson bait". *Nature News*, July 7, 2005. (<http://www.nature.com/news/2005/050707/full/news050704-9.html>)
- 2005 Review of siphonophore web site. Leslie, Mitch. "The Life Gelatinous". *Science*, August 12, 2005. (<http://www.sciencemag.org/content/309/5737/995.5.full>)

## 7 Academic Honors

- 2016 Blavatnik Award for Young Scientists Finalist (<http://blavatnikawards.org/honorees/national-finalists/>)
- 2012 Teaching with Technology Award (Brown University)
- 2011 Alan T. Waterman Award (National Science Foundation)
- 2010 Named the Manning Assistant Professor of Ecology and Evolutionary Biology
- 2010 PopTech Science and Public Leadership Fellow
- 2010 Kavli Frontiers of Science Fellow (Sponsored by U.S. National Academy of Sciences)
- 2006 John Spangler Nicholas Prize (Yale University)
- 2000–2003 NSF Graduate Research Fellowship (National Science Foundation)
- 2000–2002 Sterling Fellowship (Yale University)



## 8 Teaching

### *Courses*

- 2016 Fall Invertebrate Zoology (Biol 0410, 43 students)
- 2016 Spring Phylogenetic Biology (Biol 1425, 13 students)
- 2015 Fall Topics in Ecology and Evolutionary Biology: interacting with data (Biol 2430, 19 students).  
[https://bitbucket.org/caseywdunn/data\\_interaction](https://bitbucket.org/caseywdunn/data_interaction)
- 2015 Fall Invertebrate Zoology (Biol 0410, 37 students)
- 2015 Summer Practical Computing for Biologists Workshop, Friday Harbor Labs, University of Washington
- 2015 Summer Workshop on Molecular Evolution at the Marine Biological Laboratory (Woods Hole, MA)
- 2014 Summer Workshop on Molecular Evolution at the Marine Biological Laboratory (Woods Hole, MA)
- 2013 Fall Invertebrate Zoology (Biol 0410, 40 students)
- 2013 Summer Workshop on Molecular Evolution at the Marine Biological Laboratory (Woods Hole, MA)
- 2013 Spring Phylogenetic Biology (Biol 1425, 11 students)
- 2012 Fall Invertebrate Zoology (Biol 0410, 37 students)
- 2012 Summer Workshop on Molecular Evolution at the Marine Biological Laboratory (Woods Hole, MA); Guest lecture in: Bioinformatics: Biodiscovery By Computer at Summer@Brown (a high school summer course)
- 2012 Spring EEB IGERT Course in Reverse Ecology (3 students); Guest lectures in: Analysis of Development (Biol 1310), Topics in Science Communications: Science Journalism Practicum (Biol 0950B)
- 2011 Fall Invertebrate Zoology (Biol 0410, 34 students)
- 2011 Summer Workshop on Molecular Evolution at the Marine Biological Laboratory (Woods Hole, MA)
- 2011 Spring Practical Computing for Biologists NESCENT Academy at North Carolina State University (co-taught with Steve Haddock)
- 2010 Fall Invertebrate Zoology (Biol 0410, 33 students)
- 2010 Spring Origins of Multicellularity and the Evolution of Germ Line (Biol 1940Y-So1, 14 students), Directed Research/Independent Study (Biol 195, 1 student)
- 2009 Fall Invertebrate Zoology (Biol 0410, 18 students), Directed Research/Independent Study (Biol 195, 2 students)
- 2009 Spring Topics in Ecology and Evolutionary Biology (Biol 0244, 16 students, included field trip to Belize), Directed Research/Independent Study (Biol 195, 1 student)
- 2008 Fall Topics in Ecology and Evolutionary Biology (Biol 0243, 16 students), Directed Research/Independent Study (Biol 195, 2 student)
- 2008 Spring Directed Research/Independent Study (Biol 0195, 2 students)
- 2007 Fall Directed Research/Independent Study (Biol 0195, 1 students)

### *Advising—Postdoctoral researchers*

- 2018–present Yuanning Li
- 2016–present Zachary Lewis
- 2012–2016 Felipe Zapata

2010–2011 Stephen Smith  
2009–2015 Stefan Siebert

*Advising–Graduate students (primary advisor)*

2015–present Alejandro Damian Serrano  
2015–2016 Cat Luria (co-advised with Jeremy Rich)  
2013–present August Guang (Applied Math, co-advised with Chip Lawrence)  
2013–present Catriona Munro  
2008–2015 Rebecca Helm

*Advising–Graduate student thesis committee member*

2016–present Aislinn Rowan (Brown University, MPP)  
2015–present Christy Rhine (Brown University, MCB)  
2015–present Morgan Moeglein (Brown University, EEB)  
2015–present Robert Lamb (Brown University, EEB)  
2015–2015 Kara Pellowe-Wagstaff (Brown University, EEB)  
2013–2014 Warren Francis (University of California at Santa Cruz)  
2012–2017 Tara Fresques (Brown University, MCB)  
2011–2012 Dereck Stefanik (Boston University)  
2011–2012 Anna Ritz (Brown University, CS)  
2011–2015 Ariel Camp (Brown University, EEB)  
2010–2012 Arturo Ruiz Villanueva (Institute of Ecology, Xalapa, Mexico)  
2010–2015 Cat Luria (Brown University, EEB)  
2009–2014 Adrian Reich (Brown University, MCB)  
2009–2014 Ben Ewen-Campen (Harvard University, OEB)  
2009–2011 John Cumbers (Brown University, MCB)  
2009–2015 Steven Swartz (Brown University, MCB)  
2009–2013 Henry Astley (Brown University, EEB)  
2008–2012 Matt Ogburn (Brown University, EEB)  
2007–2009 James Palardy (Brown University, EEB)

*Advising–First-year graduate advisory committees (Brown)*

2013–2014 Priya Nakka, Robert Lamb  
2012–2013 Lillian Hancock  
2011 Molecular and Cellular Biology (general)  
2011–2012 Terry Dial, Chris Graves  
2010–2011 Ariel Camp

*Advising–Rotating graduate students*

2019           Ava Ghezelayagh  
2010           Matthew Booker  
2009           Steven Swartz

*Advising–Undergraduate students*

2013–2013    Rachel Kaplan (UTRA)  
2013–2013    Hannah Kerman (EPSCoR Surf)  
2012–2015    Sam Church (EPSCoR)  
2012–2014    Pathikrit Bhattacharyya (EPSCoR, Royce Fellow)  
2012–2014    Jessica Eason (EPSCoR)  
2012–2013    Served as a freshman advisor for joint Brown/ RISD students  
2012           Robert Sandler (Royce Fellow)  
2012           James Weis (Thesis reader)  
2011–2012    Natividad Chen (Science Center Fellow, UTRA)  
2011–2012    Norian Caporale-Berkowitz (Beckman Fellow)  
2011           Cecelia Bahamon (Thesis reader)  
2010           Stephanie Spielman (Thesis reader)  
2007–2010    Orla O’Brien (Thesis advisor)  
2007–2010    Caitlin Feehery (participant on several projects)  
2007–2010    Sophia Tintori (Thesis advisor)