ELAINE C. SEAVER, Ph.D.

CONTACT INFORMATION

Whitney Laboratory for Marine Bioscience
University of Florida
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St. Augustine, FL 32080-8610
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ph (904)201-8449
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PROFESSIONAL EXPERIENCE

Professor, Whitney Laboratory for Marine Bioscience, University of Florida, 2012–present
Graduate Faculty, Department of Biology, University of Florida, 2013–present
Affiliate Professor, Department of Molecular Genetics and Microbiology, 2015–present
Member, University of Florida Genetics Institute, 2014–present
Professor, Kewalo Marine Laboratory, University of Hawaii, 2012
Associate Professor, Kewalo Marine Laboratory, University of Hawaii, 2007–2012
Graduate Faculty, Department of Zoology, University of Hawaii, 2003–2012
Assistant Professor, Kewalo Marine Laboratory, University of Hawaii, 2002–2007
Junior Researcher, Kewalo Marine Laboratory, University of Hawaii, 2001–2002
Graduate Teaching Fellow, Department of Biology, University of Utah, 1988–1989
Laboratory technician, Cornell University, 1986-1987 (Dr. Thomas Fox)
Research assistant, Cornell University, 1985 (with Dr. Thomas Fox)

ACADEMIC TRAINING

Postdoctoral Scholar, Kewalo Marine Laboratory, University of Hawaii, 1999–2001 (with Dr. Mark Q. Martindale)
Postdoctoral Scholar, Department of Zoology, University of Texas at Austin, 1997–1999 (with Dr. Marty Shankland)
Embryology Course, Marine Biological Laboratory, Woods Hole, Mass. 1997. (Dr. Marianne Bronner-Fraser and Dr. Scott Fraser, directors)
Ph.D. in Biology, University of Utah, 1995 (Dr. Michael Bastiani, advisor)
Developmental Neurobiology Course, Cold Spring Harbor Laboratory, New York, 1990. (Dr. Corey Goodman and Dr. Paul Patterson, directors)
B.S. in Biology, McGill University, 1986

PUBLICATIONS

*denotes mentored graduate or undergraduate student author

Tilic, E., Barolomaeus, T. and Seaver, E. C. (2024). Discovery and characterization of a transient chaetal gland during the development of *Capitella teleta* (Sedentaria: Annelida). Journal of Morphology 285:e21742. https://doi.org/10.1002/jmor.21742.

Worsaae, K., Rouan, A., Seaver, E. C., Miyamoto, N. and Tilic, E. (2024). Postembryonic development and male paedomorphosis in Osedax (Siboglinidae, Annelida). Frontiers in Neuroscience 18:1369274. doi: 10.3389/fnins.2024.1369274.

Boyd*, A. A. and Seaver, E. C. (2023). Investigating the developmental onset of regenerative potential in the annelid *Capitella teleta*. Invertebrate Biology 142(4):e12411. *This article was selected for the cover image.

Seaver, E. C. (2022) Sifting through the mud: a tale of building the annelid *Capitella teleta* for EvoDevo studies. Current Topics in Developmental Biology 147:401-432. DOI: 10.1016/bs.ctdb.2021.12.018. PMID: 35337457.

Seaver, E. C. and de Jong, D. M. (2021). Regeneration in the segmented annelid *Capitella teleta*. Genes 12, 1769 https://doi.org/10.3390/genes12111769.

Lanza*, A. R. and Seaver, E. C. (2020). Functional evidence that activin/Nodal signaling in establishment of the dorsal-ventral axis in the spiralian annelid *Capitella teleta*. Development 147: dev189373 doi:10.1242/dev.189373

Wu, L., Hiebert, L.S., Klann, M., Passamaneck, Y., Bastin, B. R., Schneider, S. Q., Martindale, M. Q., Seaver, E. C., Maslakova, S. A., and Lambert, J. D. Genes with spiralian-specific protein motifs are expressed in spiralian ciliary bands. *Nat Commun* 11**,** 4171 (2020). https://doi.org/10.1038/s41467-020-17780-7

Lanza*, A. R. and Seaver, E. C. (2020) Activin/Nodal signaling mediates dorsal-ventral axis formation before third quartet formation in embryos of the annelid *Chaetopterus pergamentaceous*. EvoDevo 11:17. doi.org/10.1186/s13227-020-00161-y

Klann, M. and Seaver, E. C. (2019). Functional role of *pax6* in eye and nervous system development in the annelid *Capitella teleta*. Developmental Biology 456 (1): 86-103. doi.org/10.1016/j.ydbio.2019.08.011

Neal*, S., de Jong, D. M. and Seaver, E. C. (2019). CRISPR/Cas9 mutagenesis of *r-opsin* blocks phototaxis in a marine larva. Proc. R. Soc. B 286: 20182491. doi.org/10.1098/rspb.2018.2491

Dannenberg*, L. C. and Seaver, E. C. (2018). Regeneration of the germline in the annelid *Capitella teleta*. Developmental Biology 440(2):74-87.

Lanza*, A. R. and Seaver, E. C. (2018). An organizing role for the TGF-β signaling pathway in axes formation of the annelid *Capitella teleta*. Developmental Biology 435 (1): 26- 40. *This article was selected for the cover image.

de Jong, D. M. and Seaver, E. C. (2017). Investigation into the cellular origins of posterior regeneration in the annelid *Capitella teleta*. Regeneration 5(1):1-17. DOI: 10.1002/reg2.94 *This article was selected for the cover image.

Sur, A., Magie, C. R., Seaver, E. C. and Meyer, N. P. (2017). Spatiotemporal regulation of nervous system development in the annelid *Capitella teleta*. EvoDevo 8:13 (https://doi.org/10.1186/s13227-017-0076-8)

Seaver, E. C. (2017). Annelids shed light on the evolution of spiralian development. Canadian Journal of Zoology (https://doi.org/10.1139/cjz-2016-0261).

Seaver, E. C. Annelid models I: *Capitella teleta* (2016). Current Opinion in Genetics and Development 39: 35–41.

de Jong, D. M. and Seaver, E. C. (2016). A stable thoracic Hox code and epimorphosis characterize posterior regeneration in *Capitella teleta*. PLOS ONE 11(2): 0149724. doi:10.1371/journal.pone.0149724.

Yamaguchi*, E., Dannenberg*, L. C., Amiel, A. R. and Seaver, E. C. (2016). Regulative capacity for eye formation by first quartet micromeres of the polychaete *Capitella teleta*. Developmental Biology 410 (1): 119 – 130. (doi: 10.1016/j.ydbio.2015.12.009)

Meyer, N. P., Carrillo-Baltodano, A, Moore*, R. E. and Seaver, E. C. (2015). Nervous system development in lecithotrophic larval and juvenile stages of the annelid *Capitella teleta*. Frontiers in Zoology 12: 15 (doi:10.1186/s12983-015-0108-y).

Seaver, E. C. (2014). Variation in spiralian development: insights from polychaetes. International Journal of Developmental Biology 58: 457-467. 10.1387/ijdb.140154es.

Boyle*, M. J., Yamaguchi*, E. and Seaver, E. C. (2014). Molecular conservation of metazoan gut formation: Evidence from expression of 'endomesoderm genes' in *Capitella teleta* (Annelida) EvoDevo 5: 39.

Yamaguchi*, E., and Seaver, E. C. (2013). The importance of larval eyes in the polychaete *Capitella teleta*: effects of eye deletion on formation of the adult eye. Invertebrate Biology 132 (4): 352-367 (doi: 10.1111/ivb.12034)

Amiel, A., Henry, J. Q. and Seaver, E. C. (2013). An organizing activity is required for head patterning and cell fate specification in the polychaete annelid *Capitella teleta*:

new insights into cell-cell signaling in Lophotrochozoa. Developmental Biology 379: 107-122 (doi: 10.1016/j.ydbio.2013.04.011)

Simakov, O., Marletaz, F., Cho, S.-J., Edsinger-Gonzales, E., Havlak, P., Hellsten, U., Kuo, D.-H., Larsson, T., Lv, J., Arendt, D., Savage, R., Osoegawa, K., de Jong, P., Grimwood, J., Chapman, J. A., Shapiro, H., Kuo, A., Otillar, R. P., Terry, A. Y., Boore, J. L., Grigoriev, I. V., Lindberg, D. R., Seaver, E. C., Weisblat, D. A., Putnam, N. H., Rokhsar, D. S. (2013). Insights into bilaterian evolution from three spiralian genomes. Nature 493 (7433): 526-531 (doi: 10.1038/nature11696.).

Pernet, B., Amiel, A. and Seaver, E. C. (2012). Effects of maternal investment on larvae and juveniles of the annelid *Capitella teleta* determined by experimental reduction of embryo energy content. Invertebrate Biology 131(2): 82-95 (DOI: 10.111/j.1744-7410.2012.00263.x).

Seaver, E. C., Yamaguchi, E*., Richards, G. S. and Meyer, N. P. (2012). Expression of the pair-rule gene homologues *runt*, *Pax3/7, even-skipped-1* and *even-skipped-2* during larval and juvenile development of the polychaete annelid *Capitella teleta* does not support a role in segmentation. EvoDevo 3:8.

Giani*, V. C. Jr., Yamaguchi, E. and Seaver, E. C. (2011). Somatic and germ line expression of *piwi* throughout the life cycle of the polychaete annelid *Capitella teleta*. EvoDevo 2:10.

Jackson, D. J., Meyer, N. P., Seaver, E. C., Pang K., McDougall, C., Moy, V. N., Gordon, K., Degnan, B. M., Martindale, M. Q., Burke, R. and Peterson, K. J. (2010). Developmental expression of COE across the Metazoa supports a conserved role in neuronal cell-type specification and mesodermal development. Development, Genes and Evolution 220:221-234.

Layden, M. J., Meyer N. P., Pang K., Seaver, E. C. and Martindale, M. Q. (2010). Expression and phylogenetic analysis of the zic gene family in the evolution and development of metazoans. EvoDevo 1:12.

Meyer, N. P., Boyle*, M. J., Martindale, M. Q. and Seaver, E. C. (2010). A comprehensive fate map by intracellular injection of identified blastomeres in the marine polychaete *Capitella teleta*. EvoDevo 1:8.

Meyer, N. P. and Seaver, E. C. (2010). Cell lineage and fate map of the primary somatoblast of the polychaete annelid *Capitella teleta*. Integrative and Comparative Biology 50(5):756-67.

Boyle*, M. J. and Seaver, E. C. (2010). Expression of *FoxA* and *GATA* transcription factors correlates with regionalized gut development in two lophotrochozoan marine worms: *Chaetopterus* (Annelida) and *Themiste lageniformis* (Sipuncula). EvoDevo 1:2.

Cho, S.-J., Valles, Y., Giani*, V. C., Seaver, E. C. and Weisblat, D. A. (2010). Evolutionary dynamics of the Wnt gene family: a lophotrochozoan perspective. Molecular Biology and Evolution 27(7): 1645-1658 doi:10.1093/molbev/msq052.

Shimeld, S. M., Boyle*, M. J., Brunet, T., Luke, G. N. and Seaver, E. C. (2010). Clustered Fox genes in lophotrochozoans and the evolution of the bilaterian Fox gene cluster. Developmental Biology 340: 234-248.

Hejnol, A., Obst, M., Stamatakis, A., Ott, M., Rouse, G. W., Edgecombe, G. D., Martinez, P., Baguñà, J., Bailly, X., Jondelius, U., Wiens, M., Muller, W. E. G., Seaver, E., Wheeler, W. C., Martindale, M. Q., Giribet G. & Dunn, C. W. (2009). Assessing the root of bilaterian animals with scalable phylogenomic methods. Proceedings of the Royal Society of London Series B 276: 4261-4270. 10.1098/rspb.2009.0896.

Meyer, N. P. and Seaver, E. C. (2009). Neurogenesis in an annelid: characterization of neural progenitors in the polychaete *Capitella* sp. I. Developmental Biology 335(1): 237-52.

Boyle*, M. J. and Seaver, E. C. (2009). Evidence of a dorsal pharynx in the marine polychaete, *Capitella teleta* (Polychaeta: Capitellidae). *In:* N.J. Maciolek and J.A. Blake (Eds.) Proceedings of the Ninth International Polychaete Conference, *Zoosymposia*: 317-328.

Fröbius A. C., Matus D. Q., Seaver E. C. (2008). Genomic organization and expression demonstrate spatial and temporal *Hox* gene colinearity in the lophotrochozoan *Capitella* sp. I. PLoS ONE 3(12): e4004. doi:10.1371/journal.pone.0004004.

Dill, K. K., and Seaver, E. C. (2008). *Vasa* and *nanos* are co-expressed in somatic and germ line tissue from early embryonic cleavage stages through adulthood in the polychaete *Capitella* sp. I. Development, Genes and Evolution 218(9):453-63.

Thamm*, K. and Seaver, E. C. (2008). *Notch* signaling during larval and juvenile development in the polychaete annelid *Capitella* sp. I. Developmental Biology**,** 320 (1): 304-318.

Henry, J. Q., Perry, K.J., Wever, J., Seaver, E., C. and Martindale, M. Q. (2008). Functional role of b-catenin in axial polarization and endoderm formation in the nemertean, *Cerebratulus lacteus*. Developmental Biology 317: 368-379. doi: 10.1016/j.ydbio.2008.02.042.

Dunn, C.W., Hejnol, A., Matus, D.Q., Pang, K., Browne, W.E., Smith, S.A., Seaver, E., Rouse, Obst, M., Edgecombe, G.D., Sørensen, M.V., Haddock, S.H.D., G., Schmidt-Rhaesa, A., Okusu, A., Kristensen, R., Wheeler, W.C., Martindale, M.Q., and Giribet, G. (2008). Broad taxon sampling improves resolution of the animal tree of life. Nature, 452(7188): 665-780.

Boyle*, M. J. and Seaver, E. C. (2008). Developmental expression of *foxA* and *gata* genes during gut formation in the polychaete annelid, *Capitella* sp. I. Evolution and Development 10(1):89-105.

Dill, K. K., Thamm*, K. and Seaver, E. C. (2007). Characterization of *twist* and *snail* gene expression during mesoderm and nervous system development in the polychaete annelid *Capitella* sp. I. Development, Genes and Evolution 217(6): 435-47.

Fröbius, A. C. and Seaver, E. C. (2006). *Capitella* sp. I *homeobrain-like*, the first lophotrochozoan member of a novel paired-like homeobox gene family. Mechanisms of Development 6(8):985-91.

Irvine, S. Q. and Seaver, E. C. (2006). Early Annelid Development, A Molecular Perspective. in Greg Rouse and Fredrick Pleijel, eds. *Reproductive Biology and Phylogeny of Annelida*. Pp. 93-140. Reproductive Biology and Phylogeny, v. 4. Barrie G.M. Jamieson, series ed. Science Publishers: Enfield, NH.

Fröbius, A. C. and Seaver, E. C. (2006). ParaHox gene expression in the polychaete annelid *Capitella* sp. I. Development, Genes and Evolution 216(2): 81-88.

Seaver, E. C. and Kaneshige*, L. M. (2006). Expression of 'segmentation' genes during larval and juvenile development in the polychaetes *Capitella* sp. I and *H. elegans*. Developmental Biology 289: 179-194.

Seaver, E. C., Thamm*, K. and Hill, S. (2005). Growth patterns during segment formation in the annelids *H. elegans* and *Capitella* sp. I: comparison of distinct life history stages in polychaetes. Evolution and Development 7(4): 312-326.

Seaver, E. C. (2003) Segmentation: mono or polyphyletic? Int. J. Dev. Biol. 47: 583-596.

Seaver, E. C., Paulson, D., Irvine, S. Q. and Martindale, M. Q. (2001). The spatial and temporal expression of the *Ch-en*, the *engrailed* gene in the polychaete *Chaetopterus* does not support a role in body axis segmentation. Developmental Biology 236: 195-209.

Seaver, E. C., and Shankland, M. (2001). Establishment of segment polarity in the ectoderm of the leech *Helobdella*. Development 128: 1629-1641.

Seaver, E. C., and Shankland, M. (2000). Leech segmental repeats develop normally in the absence of signals from either anterior or posterior clones. Developmental Biology 224: 339-353.

Shankland, M., and Seaver, E. C. (2000). Evolution of the bilaterian body plan: what have we learned from annelids? PNAS 97: 4434-4437.

Seaver, E. C., Carpenter, E. M., and Bastiani, M. J. (1996). REGA-1 is a GPI-linked member of the immunoglobulin superfamily present on restricted regions of sheath cell processes in grasshopper. Development 122: 567-578.

Seaver, E. C., Karlstrom, R. O., and Bastiani, M. J. (1991). The restricted spatial and temporal expression of a nervous-system-specific antigen involved in axon outgrowth during development of the grasshopper. Development 111: 881-893.

Costanzo, M. C., Seaver, E. C., and Fox, T. D. (1989). The *PET54* gene of *Saccharomyces cerevisiae*: characterization of a nuclear gene encoding a mitochondrial translational activator and subcellular localization of its product. Genetics 122: 297-305.

Fox, T. D., Costanzo, M. C., Strick, C. A., Marykwas, D. L., Seaver, E. C., and Rosenthal, J. K. (1988). Translational regulation of mitochondrial gene expression by nuclear genes of *Saccharomyces cerevisiae*. Phil. Trans. R. Soc. Lond. B 319:97-105.

Costanzo, M. C., Seaver, E. C., Marykwas, D. L., and Fox, T. D. (1987). Multiple nuclear gene products are required to activate translation of a single yeast mitochondrial mRNA, pp. 373-382 in *Genetics of Translation: New Approaches*, edited by M. Picard, M. Bolotin-Fukuhara and M. Tuite. Springer, New York.

Costanzo, M. C., Seaver, E. C., and Fox, T. D. (1986). At least two nuclear gene products are specifically required for translation of a single yeast mitochondrial mRNA. EMBO J. 5: 3637-3641.

HONORS AND AWARDS

Major Grants and Projects:

Current

PI, NSF IOS 2316882 (07/01/2023 – 06/30/2026) “Cellular and molecular dissection of a stem cell niche in a marine invertebrate” ($760,000)

Previous

Co-PI, NSF IOS 1923429 (09/01/2019 – 08/31/2023) “EDGE CT: Catalyzing regeneration research by developing functional tools for postembryonic stages” (total: $935,322)

PI, NSF DBI-1560356 (03/01/2016 – 02/28/2023) “REU site: Marine Biodiversity: lessons from molecules, development and behavior” ($431,912)

PI, NSF IOS1457102, (02/01/2015 – 01/31/2020) “Collaborative Proposal: Cellular and molecular dissection of "organizing activity" during development in the Spiralia” ($600,418)

PI, NSF DBI-1156528, (03/01/2012-02/29/2016). “REU Site: Research in molecular, cellular, neuro- and population biology using marine and other comparative models at the Whitney Laboratory for Marine Bioscience.” ($240,409)

Co-PI, NSF, (7/1/2013 – 6/30/2014). “FSML: Upgrading the Whitney Laboratory's capability for marine genomics” ($343,111)

PI, NSF IOS09-23754, (7/1/09 – 6/30/14). “Mechanisms of neurogenesis in a segmented polychaete” ($400,000)

PI, Hawaii Community Foundation (5/16/12 – 2/01/13), “An emerging model for regeneration studies” ($50,000)

Co-PI, NSF, (6/1/2010 – 5/31/2013). “FSML: Pacific Ocean Marine Lab Technology and Research Space Optimization” ($350,000)

Co-PI, NSF DBI-0922789, (9/1/09 – 8/31/11). “MRI: Acquisition of a versatile single cell labeling and high resolution multi-channel imaging system” ($470,751)

PI, NSF IOB05-44869, (6/1/06 – 5/31/10). “Multiple origins of mesoderm in a model polychaete” ($300,000)

PI, NSF, 07/01/08. REU supplement to “Multiple origins of mesoderm in a model polychaete” ($6000)
PI, Hawaii Community Foundation HCF42992, 11/01/08-6/04/10, “Functional investigations of early neurogenesis”. ($50,000)
Co-PI, NSF EF05-31558, (1/1/06 – 12/31/09) “ATOL: Collaborative proposal: Assembling the protostome tree of life” (PI: Gonzalo Giribet, Harvard University), ($975,000)
PI, Hawaii Community Foundation, 5/10/07 – 11/10/2008, “Functional investigations of cell fate specification during embryonic and adult nervous system formation” ($50,000)
Co-PI, NSF EAR-0120646, 10/1/01 – 6/30/2007, “Wormnet: Reconstructing the early evolution of segmented annelid worms”. (PI: Ken Halanych, Auburn University), ($212, 503)
Co-PI, NSF EF03-34871, 1/1/04 – 12/31/06, “Assembling the tree of life: Collaborative Research: An integrated approach to the origin and diversification of protostomes” (PI: Gonzalo Giribet, Harvard University) ($370,349)
PI, Hawaii Community Foundation, 1/1/04-12/31/05, “Molecular regulation of asymmetric segregation of developmental regulatory genes in identified embryonic cells”. ($44,625)
Co-PI, NSF IBN00-94925, 1/1/01 – 12/31/2004, "The formation and evolution of the metameric body plan in basal annelids". (PI: Mark Martindale, University of Hawaii) ($258,566)

University Funding:

University Research Council, 2007. University of Hawaii travel award ($2000)
University Research Council, 2005. University of Hawaii travel award ($2500)
Hawaii State BRIN Equipment Fund Grant, 2003. ($64,010)

Fellowships and Awards:

National Research Service Award 1F32GM19257-01, “Determinants of annelid segmental patterning”, 1997-2000
Evelyn and Melvin Spiegel Endowed Fellow, 1998.
Post course Research Award, Marine Biological Laboratory, Woods Hole, Mass. NASA Center for Advanced Studies in the Space Life Sciences, 1997
Society for Developmental Biology Scholarship, Marine Biological Laboratory, Woods Hole, Mass., 1997
National Institute of Health, Genetics Training Grant, University of Utah, 1990–1994

TEACHING

Courses Taught:

Ecological Developmental Biology, co-Instructor, Spring 2010
Directed Research, 2003–present
Evolution of Novelty, Fall 2007
Evolution of Morphological Change, Fall 2005

Contributed Lectures:

Applying to graduate school workshop, MARC undergraduate seniors at New Mexico State University, 2023
Evolutionary, Developmental and Regenerative Biology, Dept. of Biology, U. of Florida, ZOO3703C, 2014 - 2015
Introduction to Neuroscience, Dept. of Biology, U. of Hawaii, 2005-2012
Fertilization and Early Development, Institute for Biogenesis Research, 2010–2012
Seminars in Developmental and Reproductive Biology, Institute for Biogenesis Research, 2009–2012
Biology of Marine Organisms, Dept. of Zoology, 2005–2010

Developmental Biology, Dept. of Zoology, 2003
Topics in Development and Reproductive Biology, Dept. of Zoology, 2002

Special courses:

Co-Instructor, Embryology Course, Marine Biological Laboratory, Woods Hole, MA, 2004-2007, 2009–2019
Co-Instructor, Introduction to Biology of Organisms (301), Dept. of Zoology, University of Texas @ Austin, 1999
Lecturer, Development and Neurobiology of the Leech, Marine Biological Laboratory, Woods Hole, MA, 1998
Teaching assistant, Embryology Course, Marine Biological Laboratory, Woods Hole, MA, 1997, 2000
Teaching assistant, Cell Biology (240), Dept. of Biology, University of Utah, 1989
Teaching assistant, Genetic Engineering (545), Dept. of Biology, University of Utah, 1988, 1989

STUDENT AND POSTDOCTORAL RESEARCH SUPERVISION

Graduate Students (Major Advisor):

Katrin Thamm (PhD, 2003–2007), Giessen, Germany
Michael Boyle (PhD, 2003–2009), research biologist at the Smithsonian Marine Station, National Museum of Natural History, Ft. Pierce, FL
Emi Yamaguchi (MSc, 2008–2012), high school biology teacher, LA, CA
Leah Dannenberg (MSc, 2015–2017), ICU nurse
Alexis Lanza (PhD, 2013–2019), currently a postdoctoral scholar at SARS, Norway
Katie Feerst (PhD, 2020–2022)
Alicia Boyd (PhD, 2018–present)
Lauren Kunselman (PhD, 2019–present)

Graduate Students (Committee Member):

Nick Shikuma (MS, 2005)
Mahealani Kaneshiro (MS, 2007)
Tim Dubuc (MS, 2008)
Nisha P S Kumburegama (PhD, 2009)
Brian Nedved (PhD, 2010)
Kevin Pang (PhD, 2010)
Ying Huang (PhD, 2011)
Matt Shipley (MS, 2011)
Priscilla Albuquerque de Moura (2011)
Cawa Tran (PhD, 2012)
Thomas Stephenson (MS, 2017)
Miguel Salinas Saavedra (PhD, 2018)
Danny Lippi (MS, 2018)
Adam Johnson (PhD, 2019)
Jenna Moore (PhD, 2019)
Prachi, Khare (MSc, 2020)
Elizabeth Carter (PhD, left program)
Kristin Dunn (PhD, 2022)
Vanessa Muhl (MSc, 2022)
Justin Waletich (PhD, current)
Wesley Dillard (PhD, current)
Qingru Xu (Sue) (PhD, current)
Lucas Guttieres (PhD, current)

Undergraduate Students (Research Advisor):
Lori Kaneshige, University of Hawaii (2002–2003)
Timothy Rodenberger, University of Hawaii (2004–2005)
Courtney Noa, University of Hawaii (2004–2005)
Alicia Taase, undergraduate student, University of Utah (2005)
Maureen Bannigan, University of Pennsylvania (Summer, 2007)
Andrew Burch, California Polytechnic State University (Summer, 2007)
Travis Weber, University of Hawaii (2008)
Vinny Giani, University of Hawaii (2008–2010)
Tyler Smith, University of Hawaii (2009–2011)
Richard Moore, University of Hawaii (2011–2012)
Nanea Cavaco, honors thesis, University of Hawaii (2011–2013)
Kate Nesbit, University of Hawaii (2012)
Nakisa Gilani, University of Toronto (2012)
John Zobian, Arizona State University (2012)
Ryan Sirota, University of Hawaii (2012)
Alexandra Towne, Washington and Lee (2013)
Leah Dannenberg, Georgia College and State University (2013–2014)
Alexandra Jackson, Lincoln University (2014)
Joseph Biddle (2015)
Avalon Langevin (2015)
Robert Walsmith (2016)
Stephanie Neal (2017)
Gianna Stewart (2018)
Sydney Popsui (2018)
Rebecca Lopez-Anido (2019)
Amy Holt (2023)
Priya Tomerlin (2024)

Undergraduate Students (Committee Member):
Grace Liu (Senior Honors thesis, 2003; completed medical school at the U. Hawaii)
Absalon Galat (Senior Honors thesis, 2007)
Monica Orcine (Senior Honors thesis, 2011)
Nanea Cavaco (chair, Senior Honors thesis, 2013)

K-12 Students (Research Advisor):
Taylor Haines, Hawaii Baptist Academy (high school student, 2002-2003)
Nathan Tanoue, home schooled (eighth grade student, 2004)
Trey de Leon, high school student (2014-present)
Victoria Bamberg, high school student, Pedro Menendez HS (2017)
Aishva Kothari, high school student, Pedro Menendez HS (2017)
Maya Ryan, high school student, Pedro Menendez HS (2018)

Post-baccalaureate Students (Research Advisor):
Lori Kaneshige (2003–2005; research technician at Queens Medical Center, HI)
Michelle Lentini (2002; phlebotomist)
Maja Makagon (2002–2003; associate professor, UC Davis)
Gemma Richards (2004–2005; postdoctoral researcher at the U. Queensland, Australia)
Rachel Schwab (2002); K-12 teacher, FL
Olivia Veatch (2006–2008; assistant professor at University of Kansas Medical Center)
Tara Chandrasekharan (2008)
Vincent Giani (2010–2011, primary care physician in HI)
Richard Moore (2011–2012)

Katie Feerst (2019–2020, currently a PhD student at U Florida)

Postdoctoral Advisees:

Dr. Andreas Fröbius (2003–2005); assistant professor, University of Giessen, Germany
Dr. Kariena Dill (2005–2008); medical writer, Albuquerque, NM
Dr. Neva Meyer (2006–2011), Associate Professor, Clark University
Dr. Aldine Amiel (2009–2012), Marine Invertebrates Research Coordinator and Manager, French National Institute of Health and Medical Research, Nice, France
Dr. Marleen Klann (2014–2016), Staff Scientist, Okinawa Institute of Science and Technology, Japan
Dr. Danielle de Jong (2011–2017), lab manager, U. Florida
Dr. Linlin Zhang (2017–2018), assistant professor, Institute of Oceanography, Chinese Academy of Sciences

Visiting Researchers and Students:

Andrea Murillo, visiting graduate student, lab of Joanna Wilson, McMaster University, Ontario, Canada (2018, 2019)
Dr. Alexa Bely, University of Maryland, MD (2019)
Dr. Robert Zeller, visiting researcher, San Diego State University, CA (2017)
Dr. Kate Rawlinson, visiting researcher, Dalhousie University, Nova Scotia, Canada (2014)
Dr. Alysha Heimberg, visiting researcher, Australian Regenerative Medicine Institute, Clayton, Australia (2013)
Dr. Bruno Pernet, sabbatical visitor, California State University, Long Beach (2011)
Dr. Timothy Karr, visiting scholar, Arizona State University (2011)
Jaclyn Bettis (PhD, CMB graduate student rotation, 2010)
Dr. Steve DiNardo, sabbatical visitor, University of Pennsylvania (2010–2011)
Dr. Jonathon Henry, sabbatical visitor, University of Illinois (2010)
Laurel Hiebert, graduate student, Oregon State University (2010)
David Simmons, CMB graduate student rotation student (2009–2010)
Dr. Robert Zeller, sabbatical visitor, UCSD (2008)
Dr. Christina Grande, visiting researcher, UC Berkeley (2008)
RJ Stillwell, CMB graduate student rotation student (2005–2006)
Tami Stuart, undergraduate student, Agnes Scott College (2004)

PROFESSIONAL ACTIVITIES AND SERVICE

University Committees and Activities

Member, Post tenure review committee, Department of Biology, 2024
Graduate Student Liason, Whitney laboratory for Marine Bioscience, 2022–present
Member, Department of Biology Advisory Committee, 2019–2022
Member, Graduate Student Admissions Committee, Dept. of Biology, 2016–2019
Director, Whitney Laboratory NSF REU program, 2014–2019
Mentoring committee of Assistant Professor Todd Osborne, Soil and Water Science, IFAS, 2015 – 2019
Member, Strategic Planning Committee, Dept. of Biology, 2014–2018
Hazardous Waste Site Manager, Whitney Laboratory, 2014–2017
Faculty Search Committee, Whitney Laboratory for Marine Bioscience, U. Florida, 2013, 2015, 2016
Co-Director, Whitney Laboratory NSF REU program, 2014
Professional development presentation to Biology Club, University of Hawaii, U. Hawaii, 2012
Interim Graduate Student Committee, Dept. of Zoology, U. Hawaii, 2009, 2010
Faculty Search Committee, Dept. of Zoology, U. Hawaii, 2008, 2009

Acting Director, Kewalo Marine Laboratory, U. Hawaii, 2008, 2010, 2011
Speaker and participant, PBRC research symposium, U. Hawaii, 2008, 2009
Graduate Admissions Committee, Dept. of Zoology, U. Hawaii, 2004, 2008, 2009
Temporary Faculty Search Committee, Dept. of Zoology, U. Hawaii, 2007
Ad Hoc Graduate Admissions Review Committee, Dept. of Zoology, U. Hawaii, 2007
Chair, Graduate Student Advisory Committee, Cell and Molecular Program, U. Hawaii, 2007, 2008
Organizer, Kewalo Marine Laboratory seminar series, PBRC, U. Hawaii, 2007, 2008
University of Hawaii Institutional Biosafety Committee, U. Hawaii, 2005–2008
Departmental Personnel Committee, Pacific Biosciences Research Center, U. Hawaii, 2007
Graduate Student Advisory Committee, Cell and Molecular Program, U. Hawaii, 2004–2006
Graduate Student Instructional Committee, Dept. of Zoology, U. Hawaii, 2005–2006
Faculty Search Committee, Kewalo Marine Lab, PBRC, U. Hawaii, 2004, 2005
Search Committee, Administrative Officer, Kewalo Marine Lab, PBRC, U. Hawaii, 2005
Graduate Student Diagnostic Exam Committee, Dept. of Zoology, U. Hawaii, 2004, 2007
Chair, Albert L. Tester Memorial Symposium, Dept. of Zoology, U. Hawaii, 2004, 2007–2009, 2011
Judge, Albert L. Tester Memorial Symposium, Dept. of Zoology, U. Hawaii, 2003
Kane Lecture Committee, Kewalo Marine Lab, PBRC, U. Hawaii, 2002

Community Service and Outreach

Invited talk, ‘Regeneration and stems cells in marine animals‘ Hammock Dunes Home Owners Association, May 2024.
Participant, hands on activity of annelid *Capitella teleta* for Pedro Menendez high school student visits to Whitney Laboratory for Marine Bioscience, St. Augustine, FL, two visits, Feb 2023
Lab demonstration of annelid *Capitella teleta* for PK Young high school student visit to Whitney Laboratory for Marine Bioscience, St. Augustine, FL, Nov 2022
Participant and interviewee for “Paths to Science Careers” video produced at Whitney Laboratory for local high school student classrooms. This outreach project involved answering questions on camera posed by local HS students by Whitney staff, 2021
Seminar, ‘Tracking cells through space and time’ Whitney Laboratory Public Lecture Series ‘Sip N Science’, March, 2021
Facilitator for ‘Girls Can’ professional outreach event for 10th grade girls, Putnam County, FL, 2018
Led panelist discussion for Flagler County local AAUW branch visit to Whitney Laboratory for Marine Bioscience, St. Augustine, FL, 2017
Participant, Whitney Lab Turtle Hospital One Year anniversary open house. Manned table with live animals to explain annelid life history and embryology research, Nov 2016
Invited public lecture and lab visit for older adults ‘Embryology in Annelids’ Whitney Laboratory for Marine Bioscience, St. Augustine, FL, 2016
Lecture, ‘How to replace lost body parts: insights from worms’. Cedar Key Library, Cedar Key, FL, 2016
Invited lecture, UF Marine Biology Club, 2015.
Invited lecture, Coastal Systems Masters Naturalist Course, 2015.
Invited lecture, ‘I dig worms: biodiversity, development and regeneration’. Whitney Board of Trustees, 2014.
Invited lecture, ‘I dig worms: insights into generation of animal biodiversity’. Evening at Whitney Lecture Series, Whitney Laboratory for Marine Bioscience, 2013.

'Wet lab' demonstration of local marine fauna to High School Student Science Training Program (University of Florida) visit to Whitney Laboratory for Marine Bioscience, St. Augustine, FL, 2013

'Wet lab' demonstration of local marine fauna to University of Florida HHMI undergraduate student visit to Whitney Laboratory for Marine Bioscience, St. Augustine, FL, 2013

Participant in Eastern Florida State College student visit to Whitney Laboratory for Marine Bioscience, St. Augustine, FL, 2013

Invited lecture for docents of 'Day at Whitney' marine science educational program for 5th graders, Whitney Laboratory for Marine Bioscience, St. Augustine, FL, 2013

Member, Medical Research Advisory Committee, Hawaii Community Foundation, 2011–2013

Judge, Hawaii State Science and Engineering Fair, Hawaii Academy of Science, 2006, 2007, 2009

Organized and hosted Waipahu High School Marine Science student visit to Kewalo Marine Laboratory, 2008

Reviewer for Grant Proposals

NSERC, 2023
NASA FINESST, 2019
German Research Foundation, 2018
Biotechnology and Biological Sciences Research Council (BBSRC), 2009
Royal Society of New Zealand, Marsden Fund, 2006
National Institute of Child Health and Human Development, 2007
National Science Foundation, 2003, 2006, 2008–2011, 2017, 2019, 2020

Reviewer for Professional Journals:

Biochemical Genetics, 2004; Biological Bulletin, 1997, 2005, 2016, 2019; BioEssays, 2009; BMC Biology, 2012, 2014; BMC Developmental Biology 2015, 2017; BMC Evolutionary Biology, 2010, 2015, 2017; Development, 2010, 2012; Developmental Biology, 2009 – 2012, 2016, 2018, 2019 (2), 2020; 2021 (2); Developmental Dynamics, 2015, 2018, 2022; Development, Genes and Evolution, 2005 - 2007, 2012 – 2015, 2021; Evolution and Development, 2004 – 2008, 2017; EvoDevo, 2012, 2013; Frontiers in Zoology, 2012, 2015; Gene, 2012; Genes, 2021; Gene Expression Patterns (MOD), 2010, 2015; Integrative and Comparative Biology, 2014; Invertebrate Reproduction and Development, 2019; International Journal of Developmental Biology, 2010, 2014; Invertebrate Biology 2016; Journal of Experimental Zoology Part B, 2007, 2013; Gene, 2002; Molecular Biology and Evolution, 2013; Natural History, 2000; Nature Communications, 2021, 2022, 2024; PLOS ONE, 2015, 2018; PNAS, 2006, 2009; Zootaxa, 2008

National and International Service and Activities

Invited Panelist, Becoming ambassadors for the next generation of developmental biologists (Broadening Participation in Developmental Biology), 27th Developmental Biology of Sea Urchins and other Marine Invertebrates, Woods Hole, MA, Oct 2023

Participant, workshop on Evo-devo of non-model marine invertebrates – potential of DGE, Copenhagen, Denmark, 2023

Judge, Graduate student and postdoctoral scholar oral presentations, 27th Developmental Biology of Sea Urchins and other Marine Invertebrates, Woods Hole, MA, Oct 2023Associate Editor, Frontiers in Ecology and Evolution, 2022–present.

Editorial Board Member, BMC Evolutionary Biology, 2017–present.

Editorial Board Member, *EvoDevo*, 2010–present.

Editorial Board Member, *JEZ Part B*, 2012–2021.

External examiner, PhD assessment committee, Universidad Autónoma de Madrid, 2021

Invited reviewer of book proposal, Oxford University Press, Oxford, UK, 2020
Co-host, round table workshop, 'Overcoming challenges for testing gene function in post-embryonic stages" Society for Integrative and Comparative Biology Annual Meeting, Austin, TX 2020
Participant, DEDB's Evo-Devo Coffee and Dinner Meetups, Society for Integrative and Comparative Biology Annual Meeting, Austin, TX 2020, Jan 2020
Panelist, NASA Exobiology
Co-Organizer, Spiralian White Paper Workshop, Whitney Laboratory, Saint Augustine, FL, 2019
Co-Organizer, Developmental Biology of the Sea Urchin 25th Meeting, MBL, Woods Hole, MA, 2018
Panelist, NASA FINESST
Participant, NSF BIO REU PI workshop, Arlington, VA, 2014, 2017, 2019
Co-Organizer, South West Regional Developmental Biology meeting, Whitney Laboratory for Marine Bioscience, 2106
External examiner, PhD assessment committee, University of Copenhagen, 2016
Host, EDEN Research Exchange Grant recipient Kate Rawlinson from Wellcome Trust Sanger Institute, 2014
Panelist, Division of Integrative and Organismal Systems, National Science Foundation (4x)
Embryology Course Admissions Committee, Marine Biological Laboratory, Woods Hole, MA 2014
Judge, poster and oral student presentations, SICB annual meeting, 2011, 2014
Co-organizer, West Coast Regional Developmental Biology Meeting, Honolulu, HI, 2011
Co-chair, Contributed papers for Comparative Developmental Biology. 2nd International Congress on Invertebrate Morphology, Harvard University, Boston, MA, 2011
Visiting Scholar, Sars International Centre for Marine Molecular Biology, Bergen, Norway, 2011
Nominating committee, Secretary position, Division of Evolutionary Developmental Biology, Society for Integrative and Comparative Biology, 2011
Invited Workshop Participant, 'Evolutionary Transitions in Marine Invertebrate Larval Forms', Colgate University, NY, 2010
Co-organizer, Symposium on 'Spiralian Development: Conservation and Innovation', Society for Integrative and Comparative Biology Annual Meeting, 2010.
Secretary for the Division of Evolutionary Developmental Biology, Society for Comparative and Integrative Biology, 2009-2011
Invited reviewer of book project proposal, Springer Science, New York, NY, 2007
Secretary-elect for the Division of Evolutionary Developmental Biology, Society for Comparative and Integrative Biology, 2008-2009
Contact person for DOE Joint Genome Institute *Capitella* sp. I genome project, provider of high quality genomic DNA and cDNA libraries for 8x coverage complete genome sequencing project 2004-2006
Expert Consultant, Lophotrochozoan Genome Selection Workshop, Joint Genome Institute, Walnut Creek, CA, 2003
Co-chair, Contributed papers for Evolution and Development: plants and invertebrates. Society for Integrative and Comparative Biology Annual Meeting, 2001

PROFESSIONAL SOCIETIES

Society for Invertebrate Morphology
Society for Integrative and Comparative Biology
Society for Developmental Biology
Pan American Society for Evolutionary Developmental Biology
American Association of University Women

MEETINGS AND CONFERENCES

Invited Talks

Departmental seminar, 'Organizer activity is required for establishment of the dorsal-ventral axis during development in segmented worms.' Department of Human Genetics, University of Utah, 2024

Departmental seminar, 'Elucidating the rules of successful regeneration: insights from annelids' Department of Biology, U. Central Florida, Feb 2024.

Invited Conference talk, 'Regeneration in Annelids.' Conference presentation. 27th Developmental Biology of Sea Urchins and other Marine Invertebrates, Woods Hole, MA, Oct 2023

Invited keynote talk, 'Early development and establishment of the dorsal-ventral axis in annelids.' Southeast Regional Meeting of the Society for Developmental Biology, Mobile, AL, 2023

Conference talk, 'The annelid *Capitella teleta* does it differently: establishment of the dorsal-ventral polarity.' Evo-devo of non-model marine invertebrates – potential of DGE, Copenhagen, Denmark, March 2023.

Conference talk, 'Evolution of animal segmentation: review and future prospects.' Evo-devo of non-model marine invertebrates – potential of DGE, Copenhagen, Denmark, March 2023.

Conference talk, 'Broadening participation in STEM: lessons learned at a marine laboratory.' Developmental Biology of the Sea Urchin and Other Marine Invertebrates. MBL, Woods Hole, MA, April 2022.

Conference talk, 'Cellular and molecular basis of dorsal-ventral polarity in establishment in spiralians.' Portugese Society for Developmental Biology, Symposium on Alternate Models in Developmental Biology, March 2022 (invited talk, virtual)

Conference talk, 'Functional evidence that Activin/Nodal signaling mediates establishment of the dorsal ventral axis during annelid development.' Society for Developmental Biology Annual Meeting, July 2021 (invited talk, virtual)

Co-led virtual Workshop with Dr. Chris Winchell. 'CRISPR/Cas9 mutagenesis in annelids: effective methods for the polychaete *Capitella* and the leech *Helobdella*' Spiraliabase Virtual Lab Meetings, July 2020

Departmental seminar, Scripps Institute of Oceanography, La Jolla, CA, April 2019

Conference talk, International Conference for the Developmental Biology of the Sea Urchin and Other Marine Invertebrates, Marine Biological Laboratory, Woods Hole, October 2018

Conference talk, The Developmental Biology of the Sea Urchin XXIV, Marine Biological Laboratory, Woods Hole, April 2017

Conference talk, 8th Aquatic Animal Models of Human Disease Conference. Birmingham, AL, 2107

Departmental seminar, Organismal and Evolutionary Biology, Harvard University, Boston, MA 2016

South East Regional Society for Developmental Biology Annual Conference, St. Augustine, FL, 2016

Canadian Society of Zoologists Annual Conference, London, Ontario, Canada, 2016

Departmental seminar, Department of Biology, University of Florida, 2016

Graduate student invited speaker, Department of Biology, University of Central Florida, 2015

Marine Biology Club, University of Florida, 2105

South West Regional Developmental Biology Conference, UT Southwestern, Dallas, Tx, 2015

Departmental seminar, Department of Biology, University of North Florida, 2015
Departmental seminar, Whitney Laboratory for Marine Bioscience, University of Florida, 2015
Departmental seminar, Department of Biology, University of Central Florida, 2025
Departmental seminar, Department of Biology, College of Charleston, 2015
Departmental seminar, Department of Biology, University of Maryland, 2015
Masters Naturalist Class Coastal Systems, University of Florida, 2014
University of Florida Genetics Institute seminar series, Gainesville, FL, 2014
Society for Developmental Biology Annual Meeting, Seattle, WA, 2014.
Evolution of the First Nervous Systems II, University of Florida, 2014
Departmental seminar, Iowa State University, 2014
Departmental seminar, Oregon Institute for Marine Biology, University of Oregon, 2013
Richard Kessel Endowed Lecture, Marine Biological Laboratory, 2013
Departmental seminar, Whitney Marine Laboratory, University of Florida, 2012
Departmental seminar, Department of Biology, Duke University, 2012
Departmental seminar, Sars International Centre for Marine Molecular Biology, Bergen, Norway, 2011
Seaver, E. C., Amiel, A., Yamaguchi, E. and Meyer, N. P. Cell fates and developmental potential of blastomeres in the polychaete annelid *Capitella teleta*. Second International Congress on Invertebrate Morphology, Harvard University, Boston, MA, 2011
Symposium on Spiralian Development: Conservation and Innovation, Society for Integrative and Comparative Biology Annual Meeting, Seattle, WA, 2010.
Departmental seminar, Biology Department, University of Miami, Miami, FL, 2009
Departmental seminar, Smithson Marine Station, Fort Pierce, FL, 2009
Gordon Research Conference on Molecular Evolution, Crowne Plaza, Ventura, CA, 2008
Catalysis meeting on Myelin: a new model for evolutionary innovation, National Evolutionary Synthesis Center, Durham, NC, 2007
West Coast Society for Developmental Biology Meeting, Asilmar, CA, 2007
Conference on Integrating Evolution, Development, and Genomics, UC Berkeley, Berkeley, CA, 2006
Departmental seminar, Department of Organismal Biology and Anatomy, University of Chicago, Chicago, IL, 2006
Society for Integrative and Comparative Biology, San Diego, CA, 2005
Kyoto University, Kyoto, Japan, 2004
Japanese Zoological Society Annual Meeting, Kobe, Japan, 2004
Conference on the Evolution of Developmental Diversity, Cold Spring Harbor, LI, 2004
Conference on the Developmental Basis of Evolutionary Change, University of Chicago, Chicago, IL, 2003
Departmental seminar, Statione Zoologica Anton Dohrn, Naples, Italy, 2003
Departmental seminar, Cellular and Molecular Biology, University of Hawaii, Honolulu, HI, 2003
Invited seminar, Department of Molecular and Cellular Biology, UC Berkeley, Berkeley, CA, 2002
Departmental seminar, Department of Zoology, University of Hawaii, Honolulu, HI, 2002, 2001
NASA sponsored workshop, Understanding Mechanisms of Evolution, Woods Hole, MA, 2002
Symposium on Evolution of Morphological Diversity, Society for Developmental Biology Annual Meeting, Madison, WI, 2002
Segmentation Meeting in Nara. Nara-ken New Public Hall, Nara, Japan, 2001
Symposium on Cell Lineage and Cell Polarity, Society for Developmental Biology Annual Meeting, Charlottesville, VA, 1999

Conference on the Developmental Basis of Evolutionary Change, University of Chicago, Chicago, IL, 1999
NASA sponsored workshop on Developmental Gene Regulation and Mechanisms of Evolution, Woods Hole, Mass., 1998
Departmental seminar, Department of Molecular and Cellular Biology, University of Arizona, Tuscon, AZ, 1996
Departmental seminar, Department of Neurobiology, Harvard University, Boston, MA, 1996

Selected Presentations at Scientific Meetings

*denotes mentored graduate or undergraduate student co-author

Bely, A. E. Ozpolat B. D. and Seaver, E. C. Worms on the EDGE: developing tools for testing gene function during annelid regeneration. EDGE Program 2023 Awardee Meeting, Washington, DC, 2023
Kunselman*, L. F. and Seaver, E. C. Wnt signaling induces blastema formation in non-regenerating tissue of the annelid *Capitella teleta*. Inaugural meeting of the International Society for Regenerative Biology, Vienna, Austria, Sept 2023.
Boyd*, A. A. and Seaver, E. C. Regeneration potential in larvae of the annelid *Capitella teleta*. Inaugural meeting of the International Society for Regenerative Biology, Vienna, Austria, Sept 2023.
Seaver, E. C. Axial differences in regeneration ability and identification of a putative stem cell niche in the annelid *Capitella teleta*. 14th International Polychaete Conference, Stellenbosch, South Africa, 2023.
Worsaae, K., Rouan, A., Seaver, E., Myiamoto, N. & Tilic, E. 'Insights into male paedomorphosis through postembryonic developmental studies of the sexually dimorphic Osedax (Siblglinidae, Annelida)' 14th International Polychaete Conference, Stellenbosch, South Africa, 2023.
Tilic, E., Miyamoto, N., Seaver, E., Bartolomaeus, T., & Worsaae, K. 'New insights into annelid chaetogenesis' 14th International Polychaete Conference, Stellenbosch, South Africa, 2023.
Seaver, E. C. Characterization of a putative stem cell niche in the annelid *Capitella teleta*. Society for Integrative and Comparative Biology Annual Meeting, Austin, TX 2023
Boyd, A*. A. and Seaver, E. C. Developmental onset of regenerative potential in the annelid *Capitella teleta*. Society for Integrative and Comparative Biology Annual Meeting, Phoenix, AZ 2022 (virtual presentation)
Kunselman, L*. F. and Seaver, E. C. Comparison of regeneration responses of anterior and posterior fragments in the annelid *Capitella teleta*. Society for Integrative and Comparative Biology Annual Meeting, Phoenix, AZ 2022
Lanza*, A. R. and Seaver, E. C. Activin/Nodal signaling is required for establishing the dorsal-ventral axis in *Capitella teleta*. Society for Integrative and Comparative Biology Annual Meeting, Austin, TX 2020 (*won best student oral presentation)
Seaver, E. C. Genome editing sheds 'light' on larval swimming behavior. 13th International Polychaete Conference, Long Beach, CA, 2019
Lanza*, A. R. and Seaver, E. C. The road less traveled: Activin/Nodal signaling functions in *Capitella teleta* dorsal-ventral axis formation. Southeast Regional Developmental Biology Conference, Birmingham, AL, 2019
Lanza*, A. R. and Seaver, E. C. Insights into the role of TGF beta superfamily signaling in annelid dorsal-ventral axis formation. Society for Integrative and Comparative Biology Annual Meeting, Tampa, FL, 2019
Popsu*, S. E. and Seaver, E. C. Investigation of Wnt signaling during posterior

regeneration of the annelid *Capitella teleta*. Society for Integrative and Comparative Biology Annual Meeting, Tampa, FL, 2109

Zhang, L. L. and Seaver, E. C. Heads or Tails: transcriptomic insights into annelid regeneration. Society for Integrative and Comparative Biology Annual Meeting, Tampa, FL, 2109

Neal*, S., de Jong, D. and Seaver, E. C. Functional investigation of a rhabdomeric *opsin* gene in *Capitella teleta.* Society for Integrative and Comparative Biology Annual Meeting, San Francisco, CA, 2108

Lanza*, A. R. and Seaver, E. C. TGF-beta signaling and axis formation in the annelid *Capitella teleta*. Society for Integrative and Comparative Biology Annual Meeting, New Orleans, LA, 2107

Dannenberg*, L. C. and Seaver, E. C. Evidence for compensation of the germ line in the marine polychaete annelid, *Capitella teleta*. Germ Cell Conference, Cold Spring Harbor, 2016

Lanza*, A. and Seaver, E. C. TGF-beta signaling and axis formation in the annelid *Capitella teleta*. Society for Developmental Biology Annual Meeting, Boston, MA, 2016

Seaver, E. C. Evolution of development: the paradox of spiralian embryogenesis. Canadian Society of Zoologists Annual Meeting, London, Ontario, Canada, 2016

De Jong, D. and Seaver, E. C. Characterization of stem cells during regeneration of *Capitella teleta*. South East Society for Developmental Biology (SESDB) meeting, St. Augustine, FL, 2016

Lanza*, A. R. and Seaver, E. C. Investigating an embryonic organizing signal in axis formation of the annelid *Capitella teleta;* SE Regional Society for Developmental Biology Meeting, St. Augustine, FL, 2016

Klann, M. and Seaver, E. C. The role of *pax6* during development of the marine annelid Capitella teleta. Southwest Regional Developmental Biology Annual Meeting, St. Augustine, FL, 2016

Biddle*, J and Seaver, E. C. Role of MAPK signaling during early development of the marine annelid *Chaetopterus* sp. Society for Integrative and Comparative Biology Annual Meeting, Portland, OR 2016

Lanza*, A. and Seaver, E. C. Investigating an embryonic organizing signal in axis formation of the annelid *Capitella teleta*. Society for Integrative and Comparative Biology Annual Meeting, West Palm Beach, 2015

Dannenberg*, L. C. and Seaver, E. C. Evidence of compensation for loss of the germ line in the marine polychaete annelid, *Capitella teleta*. Society for Integrative and Comparative Biology Annual Meeting, Austin, TX 2014

de Jong, D., Cavaco*, N. and Seaver, E. C. Dynamic Hox gene expression during *Capitella teleta* juvenile development and posterior regeneration. Society for Integrative and Comparative Biology Annual Meeting, San Francisco, CA 2013

Amiel, A., Henry, J. Q. and Seaver, E. C. Blastomere deletions reveal organizing activity in the polychaete annelid *Capitella teleta*. Society for Integrative and Comparative Biology Annual Meeting, Charleston, SC, 2012.

Yamaguchi*, E. and Seaver, E. C. Developmental potential of embryonic cells to generate larval and juvenile eyes in the polychaete *Capitella teleta*. Society for Integrative and Comparative Biology Annual Meeting, Charleston, SC, 2012.

Meyer, N. P. and Seaver, E. C. Central nervous system development in the annelid *Capitella teleta*. Society for Developmental Biology, West Coast Regional Meeting, Honolulu, HI, 2011.

Seaver, E. C., Boyle*, M. J. and Meyer, N. P. Evolution of the annelid body plan: insights from the unsegmented sipunculan worm *Themiste lageniformis*. Society for Integrative and Comparative Biology Annual Meeting, Salt Lake City, UT, 2011.

Meyer, N. P. and Seaver, E. C. Understanding central nervous system development in an annelid: mapping gene expression profiles during early brain formation in *Capitella teleta*. Society for Integrative and Comparative Biology Annual Meeting, Salt Lake City, UT, 2011.

Meyer, N. P., Boyle*, M. J., Martindale, M. Q., and Seaver, E. C. The complete cell lineage of the polychaete annelid *Capitella teleta*. Society for Integrative and Comparative Biology Annual Meeting, Seattle, WA, 2010.

Meyer, N. P. and Seaver, E. C. Cellular and molecular mechanisms of brain development in the annelid *Capitella teleta*. Society for Integrative and Comparative Biology Annual Meeting, Seattle, WA, 2010.

Giani*, V. C., Boyle*, M. J., and Seaver, E. C. Expression of *piwi* during development and regeneration in the marine polychaete *Capitella teleta*. Society for Integrative and Comparative Biology Annual Meeting, Seattle, WA, 2010.

Yamaguchi*, E. and Seaver, E. C. Characterization of apoptosis during development and metamorphosis of *Capitella teleta*. Society for Integrative and Comparative Biology Annual Meeting, Seattle, WA, 2010.

Amiel, A. and Seaver, E. C. Evolution of the Wnt pathway, insights from the annelid *Capitella teleta*. Society for Integrative and Comparative Biology Annual Meeting, Seattle, WA, 2010.

Meyer, N. P. and Seaver, E. C. Brain development in the annelid *Capitella* sp. I: molecular and cellular insights into nervous system evolution. 68th Annual Society for Developmental Biology Meeting, San Francisco, CA, 2009.

Meyer, N. P. and Seaver, E. C. Early brain development in the polychaete annelid *Capitella* sp. I. Northwest Regional Developmental Biology Conference, Friday Harbor Laboratories, San Juan Island, WA, 2009.

Seaver, E. C. Dual origins of mesoderm in a model polychaete with terminal addition. 1st International Congress on Invertebrate Morphology, Copenhagen, Denmark, 2008.

Boyle*, M. and Seaver, E. C. Conserved gene expression during gut development in Metazoa – a lesson from annelids. Integrating Evolution, Development and Genomics, University of California, Berkeley, 2008.

Meyer, N. P. and Seaver, E. C. Early neurogenesis in a polychaete annelid: characterization of neural precursor cells during brain development in *Capitella* sp. I. Integrating Evolution, Development and Genomics, University of California, Berkeley, 2008.

Seaver, E. C. Evolution of Axes in the Lophotrochozoa. Gordon Research Conference on Molecular Evolution, Crowne Plaza, Ventura, CA, 2008.

Seaver, E. C., and Meyer, N. P. Neural development in the polychaete annelid *Capitella* sp. I. Society for Integrative and Comparative Biology Annual Meeting, San Antonio, CA 2008.

Seaver, E. C., and Thamm*, K. Developmental mechanisms of segment formation. 9th International Polychaete Conference, Portland, ME, 2007.

Boyle*, M. and Seaver, E. C. Morphological and molecular development of the gut in the polychaete *Capitella* sp. I. 9th International Polychaete Conference, Portland, ME, 2007.

Seaver, E. C., Dill, K. D., Boyle*, M. J., Thamm*, K., Fröbius, A. C., Meyer, N. P. Mesoderm development in the polychaete *Capitella* sp. I. Gordon Research Conference on Myogenesis, Il Ciocco, Barga, Italy, 2007.

Seaver, E. C. Polychaete annelids: developmental insights into body plan evolution. West Coast Society for Developmental Biology Meeting, Asilmar, CA, 2007.

Dill, K. D., Kaneshige*, L. K., Thamm*, K. and Seaver, E. C. Mesoderm development in the Lophotrochozoa: a view from the polychaete annelid, *Capitella* sp. I. Integrating Evolution, Development, and Genomics, UC Berkeley, Berkeley, CA, 2006.

Meyer, N. P., Kaneshige*, L. K., Boyle*, M. and Seaver, E. C. Investigating neural development in the polychaete annelid, *Capitella* sp. I. Integrating Evolution, Development, and Genomics, UC Berkeley, Berkeley, CA, 2006.

Boyle*, M. and Seaver, E. C. *Gata* and *forkhead* gene expression during gut development in *Capitella* sp. I. Integrating Evolution, Development, and Genomics, UC Berkeley, Berkeley, CA, 2006.

Seaver, E. C. Molecular insights into the formation of the segmented body plan in polychaete annelids. Integrating Evolution, Development, and Genomics, UC Berkeley, Berkeley, CA, 2006.

Fröbius, A. C., Schwab*, R. L., Seaver, E. C. ParaHox gene expression in the polychaete annelid *Capitella* sp. I: surprises and expected outcomes. Developmental Basis of Evolutionary Change, Chicago, 2005.

Seaver, E. C. Segmentation in the Lophotrochozoa: 'segmentation' gene expression in polychaete annelids. 15th International Society of Developmental Biologists Congress, Sydney, Australia, 2005.

Thamm*, K. and Seaver E. C. Involvement of the Notch signaling pathway in the development of the polychaete annelid *Capitella* sp. I. 16th Scientific Meeting of the Society of Developmental Biology, Univerität Münster, Münster, Germany 2005.

Seaver, E. C. Development of the segmented polychaete body plan. Society for Integrative and Comparative Biology Annual Meeting, San Diego, CA 2005.

Fröbius, A. C., Schwab*, R. L. and Seaver, E. C. Expression of Hox and ParaHox genes during development of the polychaete annelid *Capitella* sp. I. Society for Integrative and Comparative Biology Annual Meeting, San Diego, CA, 2005.

Giribet G, Edgecombe GD, Kristensen RM, Martindale MQ, Seaver EC, Sorensen MV, Rouse GW, Wheeler WC. Assembling the protostome tree of life. Society for Integrative and Comparative Biology Annual Meeting, San Diego, CA, 2005.

Thamm*, K., and Seaver, E. C. Involvement of the notch signaling pathway in the development of *Capitella* sp. I. Society for Integrative and Comparative Biology Annual Meeting, San Diego, CA, 2005.

Seaver, E. C. Evolution of segmentation from an annelid perspective. Japanese Zoological Society Annual Meeting, Kobe, Japan, 2004.

Seaver, E. C., Kaneshige*, L. M., Froebius, A., Schwab*, R. L., and Makagon* M. B. Segmentation and regional identity in polychaete annelids. Evolution of Developmental Diversity, Cold Spring Harbor, LI, 2004.

Seaver, E. C., Kaneshige*, L. M., Makagon* M. B., and Schwab*, R. L. The expression of segmentation genes in polychaete annelids. Society for Integrative and Comparative Biology Annual Meeting, New Orleans, LA, 2004.

Seaver, E. C., Kaneshige*, L. M., Schwab*, R. L., and Makagon* M. B. Gene Co-option: tales from a segmented animal. Conference on the Developmental Basis of Evolutionary Change, University of Chicago, IL, 2003.

Seaver, E. C., and Martindale, M. Q. *Engrailed* Expression in 3 Polychaete Annelids: A Possible Role in Chaetogenesis. Developmental Biology 247(2): 371. Society for Developmental Biology Annual Meeting, Madison, WI, 2002.

Seaver, E. C., Paulson, D., Irvine, S. Q. and Martindale, M. Q. Variation in segment formation in polychaetes and its relationship to life history characteristics. Society for Integrative and Comparative Biology Annual Meeting, Anaheim, CA, 2002.

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