

JOHN E. MAJORIS

PENNSYLVANIA STATE UNIVERSITY
EBERLY COLLEGE OF SCIENCE | DEPARTMENT OF BIOLOGY
MUELLER LABORATORY | STATE COLLEGE, PA 16801 USA
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RESEARCH INTERESTS

Marine Ecology, Animal Behavior, Phenotypic Plasticity, Aquaculture, Integrative Organismal Biology

CURRENT POSITION

2025 - *present* **Assistant Professor of Biology**, Eberly College of Science, Pennsylvania State University

EDUCATION

- 2017 Ph.D. in Biology, **Boston University**
Dissertation title: An integrative investigation of larval behavior using a coral reef fish.
Advisors: Drs. Jelle Atema and Peter Buston
- 2009 Dual B.Sc. in Marine Biology and Aquaculture, **Florida Institute of Technology**
Advisor: Dr. Ralph Turingan

ACADEMIC APPOINTMENTS

- 2023 - 2025 **Assistant Professor of Marine Biology**, Texas A&M University Corpus Christi (TAMUCC)
- 2022 - 2023 **Research Scientist**, University of Texas at Austin Marine Science Institute
Topic: Influence of variation in dispersal traits on reef fish community structure.
Supervisor: Dr. Simon Brandl
- 2021 - 2022 **Postdoctoral Fellow**, University of Texas at Austin Marine Science Institute
Topic: Interspecific variation in dispersal traits of reef fish larvae.
Supervisor: Dr. Simon Brandl
- 2019 - 2021 **Postdoctoral Fellow**, King Abdullah University of Science and Technology (KAUST)
Topic: Differential gene expression related to dispersal traits of reef fish larvae.
Supervisor: Dr. Michael Berumen
- Fall 2018 **Lecturer**, Boston University Marine Program
Course: BI 529-Tropical Marine Fisheries
- 2017 - 2018 **Postdoctoral Associate**, Boston University
Topic: Ontogeny of orientation behavior of reef fish larvae.
Supervisor: Dr. Peter Buston

AWARDS & HONORS

- 2015 **Doctoral Dissertation Improvement Grant (DDIG)**, National Science Foundation
- 2015 **First Place**, Poster Presentation, Biology Graduate Student Research Symposium, Boston University
- 2012 **Outstanding Teaching Fellow**, Boston University Marine Program, Boston University
- 2009 **First Place**, Poster Presentation in Biological Science, Florida Academy of Science
- 2009 **Second Place**, Overall Poster Presentation, Florida Academy of Science
- 2009 **Outstanding Senior**, Marine Biology and Aquaculture, Florida Institute of Technology

RESEARCH

PUBLICATIONS (TOTAL: 26 | CITATIONS: 801 | H-INDEX: 14)

♦ Co-first Authors, * Mentored Undergraduate Student Co-Authors, § Mentored Graduate Student Co-Authors

26. Narvaez, S.P. §, D.J. Coker, M. Justo §, J.E. Majoris, M.L. Berumen. (2025) Adaptive hues: color change in a small coral reef mesopredator (*Pseudochromis flavivertex*). *Coral Reefs*. 1-18.
25. Arnold, K.M., M.P. Neves, H.W. Chan, J.E. Majoris, K.M. Evans. (2025) Early Ontogenetic Allometry and Shifting Modularity in Skull Development of the Red Sea Anemonefish, *Amphiprion bicinctus*. *Evolution & Development*. 27(4): e70024.
24. Francis, R.K. §, K.G. Castro, S. Thompson*, I. Trumble, **J.E. Majoris**, P.M. Buston. (2025) Plasticity of Dispersal-Related Larval Traits in the Clown Anemonefish *Amphiprion Percula*. *Ecology and Evolution*. 15(8): e71967.
23. Pacaro, M. *§, T. Barbasch, M Rogers, J. Chavez, P.M. Buston, **J.E. Majoris**. (2023) Nocturnal parental care and the role of parents in hatching in the clownfish *Amphiprion percula*. *Ethology*. 00:1-10.
22. Hu, Y., **J.E. Majoris**, P.M. Buston, J.F. Webb. (2022) Ear development in selected coral reef fishes: clues for the role of hearing in larval orientation behavior? *Ichthyology and Herpetology*. 110(4):759-775.
21. Francis, R.K. §, K. Catalano §, **J.E. Majoris**, S.M. Bogdanowicz, C.C. D'Aloia, T. Rueger, P.M. Buston. (2022) Characteristics of breeding habitat, genetic mating system, and determinants of mating success in the sponge-dwelling goby *Elacatinus lori*. *Behavioral Ecology and Sociobiology*. 76:57.
20. Fitzgerald, L.M. §, H.B. Harrison, D.J. Coker, P. Saenz-Agudelo, M. Srinivasan, **J.E. Majoris**, L. Boström Einarsson; B. Pujol; M. Bennett-Smith §; S.R. Thorrold; S. Planes; G.P. Jones; M.L. Berumen. (2022) Rank change and growth within social hierarchies of the orange clownfish, *Amphiprion percula*. *Marine Biology* 169:128.
19. **Majoris, J.E.**, F.A. Francisco*, C. Burns*, S.J. Brandl, K.M. Warkentin, P.M. Buston. (2022) Paternal care regulates the timing, synchrony, and success of hatching in a coral reef fish. *Proceedings of the Royal Society B*. 289: 20221466.
18. Chahid, A. §, I. N'Doye, **J.E. Majoris**, M.L. Berumen, T. Laleg-Kirati. (2021) Fish growth trajectory tracking using Q-learning in precision aquaculture. *Aquaculture* 550: 737838.
17. Bennett-Smith, M.F. §, **J.E. Majoris**, B. Titus, M.L. Berumen. (2021) Clownfish-hosting sea anemones (Anthozoa, Actiniaria) of the Red Sea: new associations and distributions, historical misidentifications, and morphological variability. *Marine Biodiversity Records* 14(22): 1-15.
16. Chahid, A. §, I. N'Doye, **J.E. Majoris**, M.L. Berumen, L. Taous-Meriem. (2021) Model predictive control paradigms for fish growth reference tracking in precision aquaculture. *Journal of Process Control* 105:160-168.
15. **Majoris, J.E.**, M.A. Foretich, Y. Hu, K.R. Nickles, C.L. Di Persia, R. Chaput, E Schlatter, J.F. Webb, C.B. Paris, P.M. Buston. (2021) An integrative investigation of sensory organ development and orientation behavior in the larvae of a coral reef fish. *Scientific Reports* 11: 12377.
14. Gajdzik, L., T.M. DeCarlo, E.A. Aylagas, D.J. Coker, A. Green, **J.E. Majoris**, V.F. Saderne, S. Carvalho, M.L. Berumen. (2021) Tailoring marine conservation to enhance climate change mitigation and adaptation. *Global Change Biology* 00: 1-13.
13. Nickles, K.R., Y. Hu, **J.E. Majoris**, P.M. Buston, J.F. Webb. (2020) Organization and ontogeny of a complex lateral line system in a goby (*Elacatinus lori*), with a consideration of function and ecology. *Copeia* 108 (4): 863-885. - **Awarded 2020 Best Paper in Ichthyology in Copeia.**

12. **Majoris, J.E.**, K.A. Catalano*, D. Scolaro*, J. Atema, P.M. Buston. (2019) Ontogeny of swimming abilities of larval coral reef fishes and a hypothesis for their impact on the spatial scale of dispersal. *Marine Biology* 166(12): 159.
11. Chaput, R., **J.E. Majoris**, P.M. Buston, C.B. Paris. (2019) Hydrodynamic and biological constraints on group cohesion of larvae through ontogeny. *Journal of Theoretical Biology* 482: 109987.
10. Chaput, R., **J.E. Majoris**, C.M. Guigand, M. Huse, E.K. D'Alessandro. (2019) Environmental conditions and parental care determine hatching synchronicity of coral reef fish larvae. *Marine Biology* 166(9): 118.
9. Reed, C.*, R. Branconi, **J.E. Majoris**, C. Johnson, P.M. Buston. (2019) Competitive growth in a social fish. *Biology Letters* 15(2): 20180737
8. Hu, Y., **J.E. Majoris**, P.M. Buston, J.F. Webb. (2018) Potential roles of smell and taste in the orientation behavior of coral reef fish larvae: insights from morphology. *Journal of Fish Biology* 95: 311-323 - **Special Issue on the Sensory Ecology of Fishes.**
7. **Majoris, J.E.**, C.C. D'Aloia, R.K. Francis* and P.M. Buston. (2018) Differential persistence favors habitat preferences that determine the distribution of a reef fish. *Behavioral Ecology* arx189.
6. **Majoris, J.E.**, F.A. Francisco*, J. Atema, P.M. Buston. (2018) Reproduction, early development, and larval rearing strategies for two sponge-dwelling neon gobies, *Elacatinus lori* and *E. colini*. *Aquaculture* 483: 286-295.
5. D'Aloia, C.C., S.M. Bogdanowicz, R.K. Francis*, **J.E. Majoris**, R.G. Harrison, P.M. Buston. (2015) Patterns, causes, and consequences of marine larval dispersal. *PNAS* 112(45): 13940-13945.
4. D'Aloia, C.C., S.M. Bogdanowicz, **J.E. Majoris**, R.G. Harrison and P.M. Buston. (2013) Self-recruitment in a Caribbean reef fish: a method for approximating dispersal kernels accounting for seascape. *Molecular Ecology* 22(9): 2563-2572.
3. D'Aloia, C.C., **J.E. Majoris** and P.M. Buston. (2011) Predictors of the distribution and abundance of a tube sponge and its resident goby. *Coral Reefs* 30: 777-786.
2. Long, W.C., J.N. Grow, **J.E. Majoris**, A.N. Hines. (2011) Effects of anthropogenic shoreline hardening and invasion by *Phragmites australis* on habitat quality for juvenile blue crabs (*Callinectes sapidus*). *Journal of Experimental Marine Biology and Ecology* 409(1-2): 215-222.
1. Anto, J., **J.E. Majoris**, R.G. Turingan. (2009) Prey selection and functional morphology through ontogeny of *Amphiprion clarkii* with a congeneric comparison. *Journal of Fish Biology* 75: 575-590.

MANUSCRIPTS IN REVIEW OR PREPARATION

- 202x **Majoris, J.E.**, M.S. Justo[§], M.L. Berumen. S.J. Brandl. Heterochrony during the larval phase reflects variation in adult life history among congeneric coral reef fishes. *submitted – Ecology and Evolution.*
- 202x **Majoris, J.E.**, M.S. Justo[§], E. Anguiano*, M.L. Berumen. Among-individual variation in larval movement behavior throughout development in the Red Sea Clownfish, *Amphiprion bicinctus*. *in prep.*
- 202x **Majoris, J.E.**, M.S. Justo[§], Davies S.W., M.L. Berumen. Gene expression co-varies with larval dispersal traits in a coral reef fish. *in prep.*
- 202x **Majoris, J.E.**, Konstantinidis P., Leis J., M.L. Berumen. Testing assumptions about the distribution and abundance of reef fish larvae in nearshore waters. *in prep.*

TECHNICAL REPORTS

- 2019 **Majoris, J.**, Bojko, J., Branconi, R., Scavo, K., Lesneski, K., Jennings, L., **Tropical Marine Fisheries Course Students***, Beringer, D., Rotjan, R. Causes and Consequences of Spiny Lobster Mortality at Fishing Camps on Turneffe Atoll. *Report to the Belizean Fisheries Department. (Available upon request)*

GRANTS FUNDED (TOTAL: \$6,516,255 | PERSONAL TOTAL: \$1,078,883)

* Denotes lead role, § Denotes lead institution

TAMUCC Texas Comprehensive Research Fund Research/Creative Activity Seed Grant 11/2024 – 08/2025:

What makes a good invader?: Assessing the life-history traits, dispersal abilities, and ecological impact of the invasive Regal Damselfish in the Gulf of Mexico. **Majoris, J.E.*§**

Status: **Funded**. Total: **\$19,500**

National Science Foundation BIO-OCE (#2346429) 09/2024 – 09/2027: COLLABORATIVE RESEARCH: An

integrative investigation of dispersal plasticity using a Coral Reef Fish. Buston P.M.*§, Davies S.W., Muthukrishnan R., **Majoris J.E.***

Status: **Funded**. Total: \$ 2,478,860 | **TAMUCC's portion: \$582,954**

Saudi Research Development and Innovation Authority: Research Consortium Grant 09/2024 – 09/2027:

Reliable automatic fish feeding and water quality monitoring-based data-driven control and soft-sensing solutions for aquaculture systems. Asiri S.*§; Mohamed A.*, **Majoris J.E.***

Status: **Recommended for funding**. Total: \$ 2,676,445 | **TAMUCC's portion: \$319,438**

KAUST Capital Equipment Grant, Academic Space and Equipment Planning Committee 01/2020 – 06/2021:

Developing a high-throughput behavioral phenotyping pipeline for analyzing larval dispersal traits.

Majoris J.E.*, Berumen M.L.

Status: **Funded**. Total: **\$90,093**

Dr. Junda Lin Memorial Fund Open Access Publication Grant 2017: Reproduction, early development, and

larval rearing strategies for two sponge-dwelling neon gobies, *Elacatinus lori* and *E. colini*. **Majoris J.E.***

Status: **Funded**. Total: **\$1,500**

National Science Foundation Doctoral Dissertation Improvement Grant (DDIG) 09/2015 – 09/2017:

DISSERTATION RESEARCH: Testing alternative hypotheses for the goal of orientation by reef fish larvae throughout development. **Majoris J.E.***, Buston P.M.

Status: **Funded**. Total: **\$16,898**

National Science Foundation BIO-OCE (#1459546) 09/2015 – 09/2019: COLLABORATIVE RESEARCH: The

role of larvae orientation behavior in determining population connectivity. Buston P.M.*§, Atema J., Paris C., Webb J. (*Majoris's role: contributed experimental design, writing, and preliminary data.*)

Status: **Funded**. Total: \$1,231,459 | **Total for NSF Postdoc: \$47,000**

American Museum of Natural History Lerner-Grey Marine Research Grant 2010. The role of sensory behavior

in habitat selection and distribution of settlement stage larvae of the sponge goby, *Elacatinus lori*. **Majoris**

J.E.*

Status: **Funded**. Total: **\$1,500**

GRANTS IN REVIEW, REVISION OR PREPARATION**National Science Foundation IOS – Organismal Response to Climate Change (ORCC): COLLABORATIVE**

RESEARCH: ORCC: An integrative approach to evaluate the effects of hypoxia in coastal marine fishes.

Bernal, M. §, **Majoris, J.E.***, Walther, B.

Status: *In review*. Total: \$1,880,000 | **TAMUCC's portion: \$1,105,508**

National Science Foundation IOS – Enabling Discovery through Genomics (EDGE) – Complex Multigenic

Traits: COLLABORATIVE RESEARCH: EDGE CMT: Identifying the Genomic Basis of Variation in Complex Larval Dispersal Traits in an Emerging Marine Model Organism. **Majoris, J.E.*§**, Buston P.M.*, Davies S.W., Pinsky* M.L., Brandl* S.J.

Status: *In revision*. Total: \$2,241,166 | **TAMUCC's portion: \$619,191**

National Science Foundation DEB-NERC (UK) – Evolutionary Processes: COLLABORATIVE RESEARCH:
NSF:DEB-NERC: Genetic and social structure in a sponge-dwelling reef fish: ecological rules and evolutionary responses. Casey, J.*§; Rueger*§, T.; **Majoris J.E.***; Brandl S.J..
Status: *In preparation* – pre-proposal invited for full submission

AWARDS & FELLOWSHIPS (TOTAL: \$43,750)

- 2018 Oboh-Weilke Postdoctoral Travel Award, Boston University (**\$1,000**)
- 2014 Travel Award, Biology Graduate Student Association, Boston University (**\$250**)
- 2014 Travel Award, Society for Integrative and Comparative Biology (**\$1,500**)
- 2013 Warren-Mcleod Full-Year Research Fellowship (2013 – 2014), Boston University (**\$20,500**)
- 2012 Dana Wright Research Scholarship, Boston University (**\$10,250**)
- 2011 Warren-Mcleod Summer Research Fellowship, Boston University (**\$10,250**)
- 2010 Warren-Mcleod Summer Research Fellowship, Boston University (**\$10,250**)

SEMINARS AND PRESENTATIONS

INVITED SEMINARS

- 2025 **Majoris, J.E.** There's no place like home: Understanding the patterns, causes, and consequences of marine larval dispersal in a changing world.
Department of Biology, **Penn State University, State College, PA.**
- 2023 **Majoris, J.E.** When do larvae develop the sensory systems, swimming abilities, and orientation behaviors that could allow them to influence their dispersal?
Stengl-Wyer Fellows Luncheon, **University of Texas at Austin, Austin, TX.**
- 2023 **Majoris, J.E.** Evaluating the role of larval behavior in determine patterns of dispersal in a coral reef fish.
Department of Life Sciences, **Texas A&M Corpus Christi, Corpus Christi, TX.**
- 2023 **Majoris, J.E.** Evaluating the role of larval behavior in determine patterns of dispersal in a coral reef fish.
Department of Biological Sciences, **University of Alabama, Dauphin Island, AL.**
- 2023 **Majoris, J.E.** An integrative investigation of the dispersal traits of reef fish larvae.
Department of Natural Sciences, **University of Maryland Eastern Shore, Princess Anne, MD.**
- 2023 **Majoris, J.E.** Leveraging aquaculture to study the dispersal traits of coral reef fish larvae.
School of Marine and Environmental Programs, **University of New England, Biddeford, ME.**
- 2021 **Majoris, J.E.** When do larvae develop the sensory systems, swimming abilities, and orientation behaviors that could allow them to influence their dispersal?
Marine Science Institute, **University of Texas at Austin, Port Aransas, TX.**
- 2021 **Majoris, J.E.** The early ontogeny of sensory systems and dispersal behavior of *Elacatinus lori*: can reef fish larvae influence their dispersal?
Smithsonian Virtual Ichthyology Seminar Series, **Smithsonian Institute, Washington, DC.**
- 2018 **Majoris, J.E.** An integrative investigation of the dispersal and settlement behaviors of reef fish larvae.
Red Sea Research Center, **King Abdullah University of Science and Technology, Saudi Arabia.**
- 2018 **Majoris, J.E.** An integrative investigation of the dispersal and settlement behaviors of reef fish larvae.
Department of Ecology and Evolutionary Biology, **University of California, Irvine, CA.**

CONTRIBUTED PRESENTATIONS

- 2025 **Majoris, J.E.**, J.P. Lozano-Peña, I. Grudowski, S.J. Brandl. Characterizing the ichthyoplankton community that use marginal habitats during estuarine ingress.
48th Larval Fish Conference, Quebec City, Canada.
- 2024 **Majoris, J.E.**, M.S. Justo, M.L. Berumen, S.J. Brandl. Heterochrony during the larval phase reflects variation in adult life history among congenic coral reef fishes.
47th Larval Fish Conference, Huron, OH.
- 2023 **Majoris, J.E.**, F.A. Francisco, C. Burns, S.J. Brandl, K.M. Warkentin, P.M. Buston. Parental care regulates hatching time and hatchling morphology in a coral reef fish.
Society of Integrative and Comparative Biology, Austin, TX.
- 2020 **Majoris, J.E.**, M.A. Foretich, Y. Hu, K.R. Nickles, C.L. Di Persia, R. Chaput, E Schlatter, J.F. Webb, C.B. Paris, P.M. Buston. Neon goby larvae have sufficiently developed sensory systems and swimming abilities to orient directionally beginning shortly after hatching.
Society of Integrative and Comparative Biology, Austin, TX.
- 2019 **Majoris, J.E.**, M.A. Foretich, Y. Hu, K.R. Nickles, C.L. Di Persia, R. Chaput, E Schlatter, J.F. Webb, C.B. Paris, P.M. Buston. Larval orientation behavior begins shortly after hatching and may contribute to restricted dispersal in a coral reef fish.
43rd Larval Fish Conference, Palma, Spain.
- 2018 **Majoris, J.E.**, C.C. D'Aloia, R.K. Francis* and P.M. Buston. Differential persistence favors habitat preferences that determine the distribution of a reef fish.
42nd Larval Fish Conference, Victoria, Canada.
- 2018 **Majoris, J.E.**, M.A. Foretich, Y. Hu, K.R. Nickles, C.L. Di Persia, R. Chaput, E Schlatter, J.F. Webb, C.B. Paris, P.M. Buston. Larval orientation behavior begins shortly after hatching in a coral reef fish.
42nd Larval Fish Conference, Victoria, Canada. (Poster)
- 2018 **Majoris, J.E.**, C.C. D'Aloia, R.K. Francis and P.M. Buston. Differential persistence favors habitat preferences that determine the distribution of a reef fish.
Society of Integrative and Comparative Biology, San Francisco, CA.
- 2017 **Majoris, J.E.**, K.A. Catalano, D. Sclaro, J. Atema, P.M. Buston. Ontogeny of swimming abilities of larval coral reef fishes and a hypothesis for their impact on the spatial scale of dispersal.
Indo-Pacific Fish Conference, Tahiti, French Polynesia.
- 2016 **Majoris, J.E.**, K.A. Catalano, D. Sclaro, J. Atema, P.M. Buston. The tortoise and the hare: development of maximum and endurance swimming abilities in the larvae of two coral reef fishes with short distance dispersal.
Society of Integrative and Comparative Biology, Portland, OR.
- 2015 **Majoris, J.E.**, F.A. Francisco, C. Burns, K.M. Warkentin, P.M. Buston. Hatching plasticity in a coral reef fish: the patterns, causes and consequences of hatching early.
Society of Integrative and Comparative Biology, West Palm Beach, FL.
- 2015 **Majoris, J.E.**, C.C. D'Aloia, R.K. Francis and P.M. Buston. Habitat preferences at settlement help to explain the distribution of a coral reef fish on sponge habitat. **Biology Graduate Student Research Symposium, Boston University, MA. (Poster)**
- 2014 **Majoris, J.E.**, C.C. D'Aloia, R.K. Francis and P.M. Buston. The role of sensory behavior in fine-scale habitat selection by reef fish larvae.
Society of Integrative and Comparative Biology, University of Texas Austin, TX.
- 2014 **Majoris, J.E.**, C.C. D'Aloia, R.K. Francis and P.M. Buston. Habitat preferences at settlement help to explain the distribution of a coral reef fish on sponge habitat. **International Society for Behavioral Ecology, New York University, NY. (Poster)**

- 2013 **Majoris, J.E.** Ontogeny of olfactory orientation behavior in reef fish larvae.
Warren-Mcleod Fellowship Symposium, Boston University, MA.
- 2012 **Majoris, J.E.,** C.C. D'Aloia, R.K. Francis and P.M. Buston. The role of sensory behavior in habitat selection and distribution of settlement stage larvae of the sponge goby, *Elacatinus lori*.
SeaBASS Underwater Bioacoustics Workshop, Penn State University, PA. (Poster)
- 2012 **Majoris, J.E.,** F.A. Francisco, C. Burns, S.J. Brandl, K.M. Warkentin, P.M. Buston. The effects of induced early hatching on the ontogeny of sensory systems and swimming abilities in larvae of the sponge-dwelling neon goby, *Elacatinus lori*.
Warren-Mcleod Fellowship Symposium, Boston University, MA.
- 2009 **Majoris, J.E.,** The effects of shoreline type on diet and growth of juvenile blue crabs, *Callinectes sapidus*.
Engineering & Science Student Showcase, Florida Institute of Technology, FL. (Poster)
- 2009 **Majoris, J.E.,** J. Anto, R.G. Turingan. Linking form and function in *Amphiprion frenatus* fish larvae.
Florida Academy of Science, Saint Leo University, FL. (Poster)
- 2008 **Majoris, J.E.,** Long, W.C., J.N. Grow, A.N. Hines. The effects of shoreline type on growth and diet of juvenile blue crabs, *Callinectes sapidus*.
Smithsonian Environmental Research Center, Edgewater, MD.
- 2007 **Majoris, J.E.,** P. Wills. Effects of hyperoxia on juvenile and market size aquacultured Florida pompano, *Trachinotus carolinus*. **Harbor Branch Oceanographic Institute, Florida Atlantic University, FL.**

TEACHING

TEACHING EXPERIENCE (COURSES: 13)

* Denotes field courses

<i>COURSE:</i>	<i>SEMESTERS TAUGHT:</i>	<i>ROLE:</i>
BIOL 4396: Directed Independent Research Fall 2025 <i>Student Reviews: 5/5 Responsibilities:</i> Sole instructor, student research on larval clownfish behavior.		Instructor , Texas A&M U.-Corpus Christi
BIOL 4396: Directed Independent Research Fall 2025 <i>Student Reviews: 5/5 Responsibilities:</i> Sole instructor, student research on optimizing larval nutrition of shrimp.		Instructor , Texas A&M U.-Corpus Christi
BIOL 4315/5315: Animal Behavior Fall 2024 <i>Student Reviews: 4.77/5 Responsibilities:</i> Sole instructor, course design, lecturing, grading, discussion facilitation.		Instructor , Texas A&M U.-Corpus Christi
BIOL 4396: Directed Independent Study Fall 2024 <i>Student Reviews: 5/5 Responsibilities:</i> Sole instructor, readings in the ecology and aquaculture of marine fishes.		Instructor , Texas A&M U.-Corpus Christi
BIOL 2300: Science Communication Spring/Fall 2024 <i>Student Reviews: 4.88/5 Responsibilities:</i> Sole instructor, course design, lecturing, grading, discussion facilitation.		Instructor , Texas A&M U.-Corpus Christi
BIOL 4370: Mariculture Spring 2024 <i>Student Reviews: N/A Responsibilities:</i> Instructor for 1 month during colleagues FMLA, lecturing, grading.		Instructor , Texas A&M U.-Corpus Christi
MARB 6596: Directed Independent Study Spring 2024 <i>Student Reviews: 5/5 Responsibilities:</i> Sole instructor, student research on amphidromous shrimp larviculture.		Instructor , Texas A&M U.-Corpus Christi
*BI 529: Tropical Marine Fisheries (Belize) Fall 2018 <i>Student Reviews: 5/5 Responsibilities:</i> Sole instructor, course design, lecturing, grading, local and international field trip planning, student field research project development, organization of field activities and permits.		Lecturer , Boston University
*MR 533: AAUS Scientific Diving (USA) Fall 2018 <i>Student Reviews: 5/5 Responsibilities:</i> Course design, lecturing, skills demonstrations, field practical development, supervision of field activities and safety.		Assistant Instructor , Boston University

***MR 533: AAUS Scientific Diving (USA)** Fall 2013 & 2014 **Teaching Assistant**, Boston University
Student Reviews: 4.9/5 Responsibilities: Lecturing, skills demonstration, field practical development.

***BI 539: Coral Reef Dynamics (Belize)** Fall 2012 **Teaching Assistant**, Boston University
Student Reviews: 4.95/5 Responsibilities: Student project development, freediving skills demonstration, organization of field activities.

BI 260: Marine Biology Spring 2011 & 2012 **Teaching Assistant**, Boston University
Student Reviews: 4.69/5 Responsibilities: Course design, lecturing, exam development, grading, discussions.

BI 536: Sensory Biology Fall 2010, 2011 & 2012 **Teaching Assistant**, Boston University
Student Reviews: 4.75/5 Responsibilities: Lecturing, grading, student project development, field lab development.

BI 315: Systems Physiology Spring 2010 **Teaching Assistant**, Boston University
Student Reviews: 4.1/5 Responsibilities: Laboratory briefings, lab organization, exam proctoring, grading.

BI 107: Introductory Biology Fall 2009 **Teaching Assistant**, Boston University
Student Reviews: 4/5 Responsibilities: Laboratory briefings, lab organization, exam proctoring, grading.

SCUBA INSTRUCTION:	YEARS TAUGHT:	ROLE:
NAUI Assistant SCUBA Instructor	2014 – 2018	Assistant Instructor , Boston University
SSI Level 1 Freediving Instructor	2014 – 2018	Instructor , East Coast Divers

GUEST LECTURES

- 2024 Leveraging aquaculture to study the early life history and dispersal of coral reef fishes.
Science Communication Course, Texas A&M University-Corpus Christi, TX.
- 2024 The early life history and strategies for culturing coral reef fishes.
Mariculture Course, Texas A&M University-Corpus Christi, TX.
- 2023 The early life history and dispersal of coral reef fishes.
Fish Biology Course, The University of Texas at Austin, TX.
- 2023 Parental care regulates hatching time and hatchling morphology in a coral reef fish.
Evolution and Diversity of Fishes Course, University of Rhode Island, RI.
- 2023 Recirculating aquaculture systems (RAS)
Principles of Aquarium Science Course, University of New England, ME.
- 2022 The early ontogeny of dispersal phenotypes: can reef fish larvae influence their dispersal?
Evolution and Diversity of Fishes Course, University of Rhode Island, RI.
- 2021 The early ontogeny of sensory systems and dispersal behavior of *Elacatinus lori*: can reef fish larvae influence their dispersal?
Ichthyology Course, University of Rhode Island, RI.
- 2021 Cracking open the black box of larval dispersal: methodology for studying larval fish ecology.
Evolution and Diversity of Fishes Course, University of Rhode Island, RI.
- 2020 Emerging methods for evaluating the larval behavior of coral reef fishes.
Diversity and Identification of Larval Fishes Workshop, Oregon State University, OR.

- 2018 Cracking open the black box of larval dispersal.
Evolution and Diversity of Fishes Course, University of Rhode Island, RI.
- 2016 Ontogeny of swimming speed in the larvae of two coral reef fishes with short distance dispersal.
Marine Biology Course, Boston University, MA.
- 2014 Ontogeny of olfactory orientation behavior in reef fish larvae.
Marine Biology Course, Boston University, MA.

PEDAGOGICAL TRAINING

- 2024 Association of College and University Educators (ACUE): Effective teaching practices, Texas A&M University-Corpus Christi
- 2014 An introduction to evidence-based undergraduate STEM teaching, Boston University
- 2009 Pedagogy for teaching fellows in biology, Boston University

MENTORSHIP

RESEARCH SUPERVISION AND MENTORSHIP

♠ Mentees Now Pursuing a PhD, * Mentees Now Pursuing a MSc, ° Mentees Now Employed in a STEM Field

DOCTORAL STUDENTS MENTORED: (TOTAL: 5 STUDENTS)

- 2025 - Present Macy Littell PhD advisor on phenotypic plasticity in larval dispersal traits, PSU
- 2021 - Present Hannah Rempel PhD dissertation research on trophic ecology of fishes, UTMSI
- 2020 - Present Fahad Aljehani PhD dissertation on computer vision for smart aquaculture, KAUST
- 2021 - Present Micaela Justo[♠] PhD dissertation on effects of oil exposure on gene expression KAUST
- 2015 - 2023 Robin Francis[°] PhD dissertation fieldwork planning and competition, BU
- 2019 - 2021 Abderrazak Chahid[°] PhD dissertation on control algorithms for smart aquaculture, KAUST

MASTER’S STUDENTS MENTORED: (TOTAL: 6 STUDENTS)

- 2024 – Present Sophia Mihalek MSc thesis advisor on variation in larval fish behavior, TAMUCC
- 2024 - Present Philip Munoz MSc DIS research on ornamental shrimp culture, TAMUCC
- 2020 - 2023 Madison Pacaro[°] MSc thesis on nocturnal parental care in coral reef fishes, BU
- 2019 - 2021 Micaela Justo[♠] MSc thesis on ontogeny of gene expression in reef fish larvae, KAUST
- 2019 - 2020 Morgan Bennett-Smith[♠] MSc thesis on the distribution of Red Sea anemones, KAUST
- 2019 - 2020 Lucy Fitzgerald[♠] MSc thesis on habitat quality and persistence of clownfish, KAUST

UNDERGRADUATE STUDENTS MENTORED: (TOTAL: 16 STUDENTS)

- 2024 - Present Harvey Houltyby LSAMP research on zooplankton community structure, TAMUCC
- 2024 - Present Abby Pirkle LSAMP research on cannibalistic syndromes in clownfish, TAMUCC
- 2024 - Present Ethan Smith LSAMP research on ornamental shrimp aquaculture, TAMUCC
- 2024 - Present Erica Anguiano Research assistant on consistency in larval fish behavior, TAMUCC
- 2024 - Present Ethan Hojnowski Volunteer assisting on timing mechanisms in parental care, TAMUCC
- 2022 - 2023 Isabel Grudowski[♠] Independent research on ingress of fish larvae through inlets, UTMSI
- 2017 - 2018 Juan Chavez Andonie[°] Senior thesis on hatching behavior of reef fishes, BU

2017 - 2018	Cymone Reed ^o	Senior thesis on competitive growth in clownfish, BU
2016 - 2018	Sadie Thompson ^o	Senior thesis on dispersal traits of reef fish larvae, BU
2014 - 2017	Alexander Ascher ^o	Independent research in marine ornamental aquaculture, BU
2012 - 2016	Katrina Catalano ^ϕ	Senior thesis on endurance swimming of larval reef fishes, BU
2014 - 2015	Fritz Francisco ^ϕ	Senior thesis on hatching plasticity of a coral reef fish, BU
2012 - 2015	James Ferrito ^o	Independent research on the habitat preferences of gobies, BU
2012 - 2014	Derek Scolaro ^o	Senior thesis on the swimming speed of larval reef fishes, BU
2012 - 2013	Corinne Burns ^ϕ	Senior thesis on the hatching plasticity of coral reef fishes, BU
2011 - 2012	Becky Atwood ^o	Independent research in marine ornamental aquaculture, BU

SERVICE**COLLEGE SERVICE**

2024 Wes Tunnel Distinguished Lecturers Committee, Texas A&M U.-Corpus Christi

DEPARTMENTAL SERVICE

2025 Dive Control Board, Department of Life Sciences Representative, Texas A&M U.-Corpus Christi
 2024-2025 Graduate Student Recruitment Committee, Representative, Texas A&M U.-Corpus Christi
 2023-2025 Island Day, Marine Biology Program Representative, Texas A&M U.-Corpus Christi
 2023-2024 SACNAS Mixer, Faculty Participant, Texas A&M U.-Corpus Christi
 2023-2024 College of Science Shrimp Boil, Faculty Volunteer, Texas A&M U.-Corpus Christi
 2013 - 2014 Dive Control Board, Graduate Student Representative, Boston University

GRADUATE COMMITTEE MEMBERSHIP: (TOTAL: 4 STUDENTS)

2024 – Present Kaleigh Arnold PhD dissertation on cranial morphology in reef fishes, Rice University
 2024 – Present Emily McGhee MSc thesis on cetacean behavior and bioacoustics, TAMUCC
 2024 – Present Katie Gheysen MSc thesis on niche partitioning in elasmobranchs, TAMUCC
 2024 – Present Elizabeth Everett MSc thesis on trophic transfer of microplastics, TAMUCC
 2024 – Present Philip Munoz MSc thesis on oyster ecology and population genetics, TAMUCC

EDUCATIONAL OUTREACH

2024 Lectured on ‘How do reef fish larvae find their way home?’, Owen R. Hopkins Public Library
 2020 Lectured on ‘Everything you need to know about clownfish’, Jeddah Dive Club
 2020 Sponsored a high school intern, The KAUST School
 2019 Organized lab tour and educational activity for 120 kindergarten students, The KAUST School
 2018 Organized lab tour and panel on college admissions for 90 seventh grade students, Roxybury Prep
 2017 Lectured on ‘AAUS Scientific Diving: *Dive! Dive! Dive!*, BU Open Water Diver Course
 2016 Mentored high school student science fair projects, Cambridge Science Club for Girls
 2013 Lectured on ‘Ontogeny of olfactory behavior in reef fish larvae’, BU Marine Science Association
 2012 Lectured on ‘How to find and apply for research internships’, BU Marine Science Association

2011 Lectured on 'How nemo finds his home' to 30 third grade students, British School of Boston

SYMPOSIUM ORGANIZATION AND PARTICIPATION

- 2022 Patterns, causes and consequences of intraspecific variation in marine larval dispersal and population connectivity. (*Symposium Co-organizer*)
International Coral Reef Symposium, Bremen, Germany.
- 2022 Impacts of extreme weather on benthic ecosystems. (*Session Moderator*)
Texas Benthic Ecology Meeting, Port Aransas, TX, USA.

PANEL ORGANIZATION AND PARTICIPATION

- 2024 Early Career Workshop: Tips to avoid scientific burnout. (*Invited Panelist*)
47th Larval Fish Conference, Huron, OH.
- 2024 Panel Discussion: KAUST Memories and Perspectives of PSE and BESE Alumni. (*Invited Panelist*)
KAUST Research Open Week, Thuwal, Saudi Arabia.

WORKSHOP ORGANIZATION AND PARTICIPATION

- 2024 **Overcoming Barriers to Expanding Aquaculture in Texas** (*Participant*), Texas, USA.
- 2023 **Gulf of Mexico Coral Reef Symposium** (*Participant*), Texas, USA.
- 2022 **Red Sea Ichthyoplankton Identification** (*Organizer*), KAUST, Saudi Arabia.
- 2019 **Ichthyoplankton Identification** (*Participant*), Oregon State University, USA.
- 2019 **Writing Ethics** (*Participant*), Palma, Spain.
- 2018 **Larval Fish Identification** (*Participant*), Victoria, Canada.
- 2017 **Integrating Data on Larval Dispersal** (*Participant*), CRIOBE, French Polynesia.
- 2012 **SeaBASS Underwater Bioacoustics** (*Participant*), Penn State University, USA
- 2010 **Encyclopedia of Life: Deep Sea Fishes** (*Participant*), Harvard University, USA.

GRANT PROPOSAL REVIEW (TOTAL REVIEWS: 1)

- 2024 **Israel Science Foundation**

AD HOC PEER-REVIEW (TOTAL REVIEWS: 17)

Behavioral Ecology, Canadian Journal of Zoology, Coral Reefs, Ecology and Evolution, Environmental Biology of Fishes, Evolution & Development, Journal of Fish Biology, Journal of the Marine Biological Association UK, Marine Biology, Marine Ecology, Molecular Ecology, OIKOS

PROFESSIONAL EXPERIENCE

RESEARCH POSITIONS

- 2008 Research Experience for Undergraduates (REU) Intern, Marine and Estuarine Ecology Laboratory
Smithsonian Environmental Research Center, Edgewater, MD.
Topic: The effects of shoreline type on growth and diet of juvenile blue crabs, *Callinectes sapidus*.
Supervisor: Dr. Anson Hynes

- 2007 Research Experience for Undergraduates (REU) Intern, Aquaculture Division
Harbor Branch Oceanographic Institute, Fort Pierce, FL.
Topic: Effects of hyperoxia on aquacultured Florida pompano, *Trachinotus carolinus*.
Supervisor: Dr. Paul Wills
- 2006 - 2009 Research Assistant, Fish Ecophysiology Laboratory
Florida Institute of Technology, Melbourne, FL.
Topic: Prey selection and functional morphology through ontogeny of *Amphiprion clarkii*.
Supervisor: Dr. Ralph Turingan

FIELD EXPERIENCE (FIELD TIME: 34 MONTHS; SHIP TIME: 4.25 MONTHS; RESEARCH DIVES: >1500 DIVES)

2025	Texas	2 weeks	NOAA Research Cruise Participant
2025	Papua New Guinea	3 weeks	AAUS Dive Supervisor
2024	Texas	1 week	NOAA Research Cruise Participant
2022	Saudi Arabia	1 month	KAUST Research Cruise Organizer
2022	Australia	1 month	AAUS Dive Supervisor
2020	Saudi Arabia	1 month	AAUS Dive Supervisor
2019	Papua New Guinea	2 weeks	AAUS Dive Supervisor
2019	Saudi Arabia	2 weeks	AAUS Dive Supervisor
2018	Belize	2 weeks	Field Course Instructor
2017	Belize	1.5 months	AAUS Dive Supervisor
2016	Belize	4 months	AAUS Dive Supervisor
2015	Belize	4 months	AAUS Dive Supervisor
2014	Belize	2 weeks	AAUS Dive Supervisor
2013	Belize	4 months	AAUS Dive Leader
2012	Belize	1 month	AAUS Dive Leader
2011	Belize	4 months	AAUS Research Diver
2011	Australia	1.5 months	AAUS Research Diver
2010	Belize	1.5 months	AAUS Research Diver

CERTIFICATIONS

2025	Divers Alert Network CPR/AED/First Aid	2012	AAUS Dive Leader
2025	Divers Alert Network O2 Administration	2010	SSI Dive Guide
2022	Canadian Pleasure Craft Operator License	2010	NAUI Rescue Diver
2014	NAUI Assistant Instructor	2009	SSI Diver Stress and Rescue
2014	SSI Freediving Instructor Level 1	2008	IANTD Cave Diver and Nitrox Diver
2013	SSI Level 1-3 Freediver	2007	PADI Advanced Open Water Diver
2012	SSI Dive Master	2003	PADI Open Water Diver