**Catheline Y.M. Froehlich, Ph.D.**

NSF Postdoctoral Research Fellow in Biology
University of Alabama
Dauphin Island Sea Lab

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## EDUCATION

*PhD University of Wollongong, Australia, Ecology* 2018-2023

*M.S. University of Texas at Brownsville (now UT Rio Grande Valley), USA, Biology* 2012-2014

*B.S. University of Massachusetts at Amherst, USA, Pre-veterinary* 2008-2012
*Study Abroad at University of Queensland, Australia* Feb-Jun 2011

## PROFESSIONAL APPOINTMENTS

*NSF Postdoctoral Research Fellow in Biology, USA* 2023-present
University of Alabama/Dauphin Island Sea Lab

*Postdoctoral Researcher: University of Alabama & Dauphin Island Sea Lab* 2022

*Zoltan Florian Marine Biology Fellow: Australian Museum* 2019-2022
Lizard Island Doctoral Fellowship Program

*Postgraduate Research Assistant: University of Wollongong* 2018-2019
School of Earth, Atmospheric, and Life Sciences, Australia

*Research Associate II: University of Texas Rio Grande Valley* 2016-2018

*Lecturer: University of Texas at Brownsville* 2015

*Graduate Research Assistant & Fellow: University of Texas at Brownsville, USA* 2012-2014

*Graduate Teaching Assistant: University of Texas at Brownsville* 2012-2014

## MAJOR GRANTS ($530,000 for all funding)

*NSF Postdoctoral Research Fellowship in Biology – **US$240,000*** *2023-2026*
National Science Foundation, USA
Project: Disentangling convergent evolutionary color patterns from underlying ecological processes in the clownfish-sea anemone symbiosis: a new model for convergent evolution?

*Zoltan Florian Marine Biology Fellowship - **AUD$33,250*** 2019-2022
Lizard Island Doctoral Fellowship Program, Australian Museum
Project: Advantages of sociality in challenging environments using coral-dwelling gobies

## OTHER GRANTS

*SMAH HDR Student Travel Grant – **AUD$343*** 2022
Faculty of Science, Medicine and Health, University of Wollongong, Australia
*Vice-Chancellors – Equality, Diversity, and Inclusion Transformation – **AUD$4462.30*** 2022
University of Wollongong, Australia

Collaborators: Noor Jarbou, Ashna Kumar, Martina Sanderson-Smith
Project: Survey HDR students to identify baseline EDI concerns

*University Postgraduate Award – Top-Up Stipend Scholarship* - ***AUD$14,427*** 2022
University of Wollongong, Australia

*Center for Sustainable Ecosystem Solutions Additional Funding Initiative* – ***AUD$1312*** 2020
School of Earth, Atmospheric, and Life Sciences, University of Wollongong, Australia
Collaborator: Siobhan J. Heatwole
Project: Population genetics of habitat-specialist fishes

*Center for Sustainable Ecosystem Solutions Funding Initiative* – ***AUD$1463*** 2020
School of Earth, Atmospheric, and Life Sciences, University of Wollongong, Australia
Project: Consequences of consecutive climatic disturbances on genetic diversity in coral gobies

*ACRS Student Research Award* – ***AUD$2,500*** 2020
Australian Coral Reef Society, Australia
Project: Investigating a link between devastating climatic events and changes in genetic diversity in coral-obligate fishes

*Student Writing Retreat Scholarship* – ***AUD$364*** 2020
Australian Coral Reef Society, Australia
Project: Declines among corals and cryptobenthic fish symbionts from multiple disturbances

*Center for Sustainable Ecosystem Solutions Funding Initiative* – ***AUD$2882*** 2019
School of Earth, Atmospheric, and Life Sciences, University of Wollongong, Australia
Project: Population connectivity of coral-dwelling gobies across geographically-discrete reef systems

*SMAH HDR Student Travel Grant* – ***AUD$857*** 2019
Faculty of Science, Medicine and Health, University of Wollongong, Australia

*Student Travel Award* – ***AUD$390*** 2019
Australian Coral Reef Society, Australia

*Sea Turtle Inc Academic Scholarship* - ***US$500*** 2019
Sea Turtle Inc.

*University Postgraduate Award – Stipend Scholarship* - ***AUD$82,788*** 2019-2021
University of Wollongong, Australia

*International Postgraduate Tuition Scholarship* - ***AUD$131,520*** 2018-2022
University of Wollongong, Australia

*Center for Sustainable Ecosystem Solutions Funding Initiative* - ***AUD$500*** 2018
Department of Biological Sciences, University of Wollongong, Australia
Project: Investigating the advantages of sociality in degraded habitats using coral-dwelling gobies

*Study Abroad Scholarship for Coral Reef Ecology in Belize* - ***US$1,500*** 2014
The University of Texas at Brownsville, USA

*College of Science, Math, and Technology Talent Scholarship* - ***US$3,400*** 2013-2014
The University of Texas at Brownsville, USA

*Graduate Research Fellowship* - ***US$15,000*** 2013-2014
Department of Graduate Studies at The University of Texas at Brownsville, USA
Project: A comparison of fish communities over different reef configurations in the northwestern Gulf of Mexico

*Talent Housing Scholarship* - ***US$1,500*** 2013-2014
Department of Residential Life at The University of Texas at Brownsville, USA

## INTERNATIONAL ACADEMIC PUBLICATIONS

21. **Froehlich, C.Y.M.,** Kirby, R.L., Greaves, S., Heatwole, S.J., Klanten, O.S., Hing, M., Wong, M.Y.L. *In review*. Population genomics and ecological losses highlight the vulnerability of coral-dwelling gobies to climatic disturbances.

20. **Froehlich, C.Y.M.,** Caves, E.M., Troscianko, J., Gibson, M., Chiodo, T., De Jode, A., Brown, K., Luckas, N., Titus, B.M. *In review*. The ecology of clownfish color patterns.
19. Hildebrandt, C.A., **Froehlich, C.Y.M.,** Klanten, O.S., Wong, M.Y.L. *In review*. Goby spotting: an updated guide to cryctic coral-dwelling gobies (genus *Gobiodon*) in the Indo-Pacific Region.
18. Chiodo, T., De Jode, A., Quattrini, A., Gibson, M.K., **Froehlich, C.Y.M.,** Huang, D., Fuji, T., Yanagi, K., Reimer, J., Scott, A., Rodriguez, E., Titus, B.M. *In review.* Nemo knows: clownfishes differentiate cryptic host species across fine and broad geographic scales and reveal a potential adaptive radiation in the clownfish-hosting sea anemones.
17. Hildebrandt, C.A., **Froehlich, C.Y.M.,** Klanten, O.S., Wong, M.Y.L. 2025. Complex Residences and Sociality: How Coral Structure and Social Environment Influence Occupation Patterns in Gobiodon in Aquaria. Ecology and Evolution *(impact factor:2.3, quartile 1 for ecology).* 15(8): e71887. doi: 10.1002/ece3.71887.
16. Bennett-Smith, M.F., **Froehlich, C.Y.M.,** Vizer, L.F., Buston, P.M. 2025. Evidence of Novel Symbiotic Relationships Between Christmas Tree Worms and Coral Reef Blennies and Gobies. Symbiosis Journal (*impact factor: 2.0, quartile 1 in agricultural and biological sciences*). doi: 10.1007/s13199-025-01067-w.
15. Hildebrandt, C.A., **Froehlich, C.Y.M.,** Brodenicke, O., Klanten, O.S., Moller, P.R., Wong, M.Y.L. 2024. Two new species of *Gobiodon* (Teleostei: Gobiidae) from the Indo-Pacific, with notes on South Pacific and Indian Ocean populations of *Gobiodon spadix*. Raffles Bulletin of Zoology (*impact factor: 1.198, quartile 2 in zoology and ecology*). 72:488-510. doi: 10.26107/RBZ-2024-0036.
14. Titus. B.M., **Froehlich, C.Y.M.,** Vondriska, C., Baker, R., Caves, E.M. 2024. Stable isotopes disentangle niche partitioning and species co-occurrence in a multi-level marine mutualism. Oikos (*impact factor: 3.28, quartile 1 for ecology, evolution, behavior and systematics*). doi: e10553.
13. ***Editor's Choice:*** **Froehlich. C.Y.M.,** Heatwole, S.J., Klanten, O.S., Hing, M.L., Hildebrandt, C.A., Smith, J.O., Wong, M.Y.L. 2024. Multi-level framework to assess social variation in response to ecological and social factors: modeled with coral gobies. Oikos (*impact factor: 3.28, quartile 1 for ecology, evolution, behavior and systematics*). doi: 10.1111/oik.10669.
12. Kirby, R., **Froehlich, C.Y.M.,** Greaves, S., Klanten, O.S., Wong, M.Y.L. 2023. Lack of population structure in an important fishery species of mud shrimp, *Trypaea australiensis.* Fish Manag Ecol *(impact factor:2.0, quartile 2 for ecology)*. 00:e12682. doi: 10.1111/fme.12682.
11. **Froehlich, C.Y.M.,** Klanten, O.S., Hing, M.L., Dowton, M., and Wong, M.Y.L. 2023. Delayed recovery and host specialization may spell disaster for coral-fish mutualisms. Ecology and Evolution*(impact factor:2.3, quartile 1 for ecology)*. 13(6): e10209. doi: 10.1002/ece3.10209.
10. **Froehlich, C.Y.M.,** Heatwole, S.J., Klanten, O.S., and Wong, M.Y.L. 2022. Habitat size, health and saturation do not alter movement decisions or the preference for familiarity in a social coral-reef fish. *Animal Behaviour (impact factor:2.844, quartile 1 for ecology, evolution, behavior and systematics).* 191: 125-133. doi: 10.1016/j.anbehav.2022.06.015.
9. **Froehlich, C.Y.M.** 2022. What happens during a cyclone? The perspective of a reef fish. *In: Coral reefs of Australia: perspectives from the water's edge, Chapter 4: Understanding the Fundamentals of Coral Reefs.* CSIRO publishing, Australia.
8. **Froehlich, C.Y.M.,** Klanten, O.S., Hing, M.L., Dowton, M., and Wong, M.Y.L. 2021. Uneven declines between corals and cryptobenthic fish symbionts from multiple disturbances. *Scientific Reports (impact factor 4.379, quartile 1 for multidisciplinary).* doi: 10.1038/s41598-021-95778-x.
7. **Froehlich, C.Y.M.**, Lee, A., Oquita, R., Cintra-Buenrostro, C.E., and Shively, J.D. 2021. Reproductive characteristics of red snapper *Lutjanus campechanus* on artificial reefs in different jurisdictions. *Regional Studies in Marine Science (impact factor 1.63, quartile 1 in animal science)* 47:101936. doi: 10.1016/j.rsma.2021.101936.
6. **Froehlich, C.Y.M.,** Garcia, A., Cintra-Buenrostro, C.E., Hicks, D.W., and Kline, R.J. 2021. Structural differences alter residency and depth patterns of red snapper (*Lutjanus campechanus*) at

two artificial reefs. *Fisheries Research (impact factor 1.874, quartile 1 for aquatic science)* 242:106043. doi: 10.1016/j.fishres.2021.106043.

5. Rueger T., Branconi, R., **Froehlich, C.Y.M.**, Heatwole, S.J., Wong, M.Y.L., and Buston, P.M. 2021. The next frontier in understanding the evolution of coral reef fish societies. *Frontiers in Marine Science (impact factor 3.07, quartile 1 for aquatic science).* 8:665780. doi: 10.3389/fmars.2021.665780.
4. **Froehlich, C.Y.M.,** Garcia, A., and Kline, R.J. 2019. Daily movement patterns of red snapper (*Lutjanus campechanus*) on a large artificial reef. *Fisheries Research (impact factor 1.874, quartile 1 for aquatic science)* 209:49-57. doi: 10.1016/j.fishres.2018.09.006.
3. **Froehlich, C.Y.M.,** Lee, A., Oquita, R., Cintra-Buenrostro, C.E., Shively, J.D., and Shipley, J.B. *2018.* A comparison of population dynamics from red snapper associated with inshore and offshore artificial reefs in the northwestern Gulf of Mexico. *In: Bortone SA, editor. Marine artificial reef research and development: integrating fisheries management objectives. USA: Transactions of the American Fisheries Society (impact factor: 1.406, quartile 1 for aquatic science), 68.*
2. Arney, R.N., **Froehlich, C.Y.M.,** and Kline, R.J. 2017. Recruitment patterns of juvenile fish at an artificial reef in the Gulf of Mexico. *Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science (impact factor 1.177, quartile 1 for aquatic science).* 9:79-92. doi: 10.1080/19425120.2016.1265031.
1. **Froehlich, C.Y.M.,** and Kline, R.J. 2015. Using fish population metrics to compare the effects of artificial reef density. *PLoS One (impact factor 2.806, quartile 1 for aquatic science).* 10(9):e0139444. doi: 10.1371/journal.pone.0139444.

## SCIENCE MEDIA ARTICLES

1. **Froehlich, C.**, Wong, M., Klanten, O.S. September 2021. Photos from the field: why losing these tiny, loyal fish to climate change spells disaster for coral. *The Conversation*. https://theconversation.com/photos-from-the-field-why-losing-these-tiny-loyal-fish-to-climate-change-spells-disaster-for-coral-167119

## GOVERNMENT WHITE PAPERS

8. **Froehlich. C.** April 2023. The ACRS comments on the Draft Policy of Fish Aggregating Devices and Artificial Reefs. *Australian Coral Reef Society submission to the Great Barrier Reef Marine Park Authority.*
7. **Froehlich, C.**, Goyen, S., Hoey, A. August 2020. The ACRS comments on revisions of AS/NZS scientific diving standards. *Australian Coral Reef Society submission to the Standards Australia Diving Committee.*
6. Wolfe, K., & **Froehlich, C. A**ugust 2020.The ACRS calls for a reassessment of the East Coast Sea Cucumber fishery. *Australian Coral Reef Society submission to Department of Agriculture, Water and the Environment regarding Sea Cucumber Fishery (East Coast) – Status report for reassessment.*
5. Suggett, D., **Froehlich, C.**, Scott, A., Sims, C., Ricardo, G., Torda, G., Cumming, G., & Lewis, B. July 2020. The ACRS comments on the Draft Policy on Great Barrier Reef Interventions. *Australian Coral Reef Society submission to the Great Barrier Reef Marine Park Authority.*
4. Steinberg, R., **Froehlich, C.**, & Turnbull, J. April 2020. Listing the cauliflower soft coral (*Dendronephthya australis*) as an endangered species. *Australian Coral Reef Society submission to the NSW Fisheries Scientific Committee.*
3. Hamylton, S., & **Froehlich, C.** December 2019. Great Barrier Reef outlook report highlights the urgent need to curb carbon emissions and improve water quality. *Australian Coral Reef Society Reef Matters: ACRS commentary on the 2019 Great Barrier Reef Outlook Report.*
2. **Froehlich, C.** & Brodie, J. November 2019. The Great Barrier Reef needs evidence-based regulation of farm practices that impact water quality. *Australian Coral Reef Society submission to the Senate Rural and Regional Affairs and transport References Committee.*

1. Fordyce, G., Goyen, S., & **Froehlich, C.** September 2019. Submission to the Australian Maritime Safety Authority on the proposed new Marine Order 505. *Australian Coral Reef Society submission to the Australian Maritime Safety Authority.*

**CONFERENCE PRESENTATIONS – (*presenter(s))**

34. Yuen, A.A.*, **Froehlich, C.Y.M.,** Bennett-Smith, M., Caves, E., Troscianko, J., Titus, B. (Aug 2025). Nemo's palette: exploring the phenotypic plasticity of the ecology of clownfishes on different anemones. Poster Presentation. *Ecological Society of America.*
33. **Froehlich, C.Y.M.*,** Bennett-Smith, M. Caves, E., Troscianko, J., Gibson, M., Chiodo, T., De Jode, A., Brown, K., Luckas, N., Schroeder, Z., Sims K., Hill, M., Semmens, G.X., Titus, B. (Aug 2025). Finding Nemo's colors: using an ecological perspective to elucidate potentially functions of clownfish color patterns. Oral Presentation. *Ecological Society of America.*
32. Yuen, A.A.*, **Froehlich, C.Y.M.,** Bennett-Smith, M., Caves, E., Troscianko, J., Titus, B. (Aug 2025). Nemo's palette: exploring the phenotypic plasticity of the ecology of clownfishes on different anemones. Poster Presentation. *Dauphin Island Sea Lab REU Symposium.*
31. **Froehlich, C.Y.M.*,** Caves, E., Troscianko, J., Gibson, M., Chiodo, T., De Jode, A., Brown, K., Luckas, N., Titus, B. (June 2025). Why Nemo got its colors: the ecology of clownfish color patterns. Oral Presentation. *Joint Conference of the Asian Society of Ichthyologists Annual Meeting and the 12th Indo-Pacific Fish Conference.*
30. Brown, K., **Froehlich, C.Y.M.,** Gibson, M., Gunn, R., Earley, R., O'Brien, A., Titus. B.* (April 2025). Studying animal behavior underwater with remotely deployed video: how many hours and how many replicates. Poster Presentation. *Benthic Ecology Meeting.*
29. **Froehlich, C.Y.M.,** Caves, E., Troscianko, J., Gibson, M., Chiodo, T., De Jode, A., Brown, K., Luckas, N.*, Titus, B. (Apr 2025). Why Nemo got its colors: uncovering the function of clownfish color patterns. Oral Presentation. *Benthic Ecology Meeting.*
28. Brown, K.*, **Froehlich, C.Y.M.,** Gibson, M., Gunn, R., Earley, R., O'Brien, A., Titus, B.M. (Jan 2025). Studying animal behavior underwater with remotely deployed video. Poster Presentation. *Society for Integrative and Comparative Biology.*
27. **Froehlich, C.Y.M.,** Caves, E., Troscianko, J., Gibson, M., Chiodo, T., De Jode, A., Brown, K., Luckas, N.*, Titus, B. (Jan 2025). Finding Nemo's colors: the ecology of clownfish color patterns. Oral Presentation. *Society for Integrative and Comparative Biology.*
26. **Froehlich, C.Y.M.*,** Luckas, N. (Oct 2024). Fishing pier versus snorkel reef: which gets the most diverse floral and faunal communities? Oral Presentation. *Gulf States Marine Fisheries Commission Artificial Reef Subcommittee Meeting.*
25. Wong, M.*, **Froehlich, C.Y.M.,** Hildebrandt, C., Hing, M., Klanten, O.S. (Nov 2023). Goby social mixers: mixed-species group formation in a model marine system (genus *Gobiodon*) and the potential impacts of habitat degradation. Oral Presentation. *The 11th Indo-Pacific Fish Conference (IPFC) and Annual Conference of the Australian Society for Fish Biology*.

25. Klanten, O.S.*, **Froehlich, C.Y.M.,** Greaves, S., Kirby, R., Wong, M.Y.L. (Nov 2023). How do cryptic goby species fare in a changing environment? Oral Presentation. *The 11th Indo-Pacific Fish Conference (IPFC) and Annual Conference of the Australian Society for Fish Biology.*

26. Kirby,R.*, **Froehlich, C.Y.M.,** Greaves, S., Klanten, O.S., Wong, M.Y.L. (Nov 2023). Digging Deeper: uncovering the social structure, population genetics and behaviour of a cryptic fisheries species, *Trypaea australiensis*. Oral Presentation. *The 11th Indo-Pacific Fish Conference (IPFC) and Annual Conference of the Australian Society for Fish Biology.*

25. Hildebrandt, C.A.*, Brodenicke, O., **Froehlich, C.Y.M.,** Klanten, O.S., Möller, P.R., Wong, M.Y.L. (Nov 2023). Goby spotting: Three new species descriptions and a revised guide to Info-Pacific *Gobiodon* genus. Oral Presentation. *The 11th Indo-Pacific Fish Conference (IPFC) and Annual Conference of the Australian Society for Fish Biology.*

24. **Froehlich, C.Y.M.***, Heatwole, S.J., Klanten, O.S., Hing M.L., Dowton, M., & Wong, M.Y.L. (July 2022). Coral-fish mutualisms may not withstand continued disturbances as coral-dwelling fish are

slower to recovery than their corals. Oral Presentation. *The 15th International Coral Reef Society Conference.* Bremen, Germany.

23. Wong, M.Y.L.* & **Froehlich, C.Y.M.*** (April 2022). Transitions in the Study of Social Evolution in Reef Fish Societies. Oral Presentation. *Animal Behaviour Live Seminar Series.* Online Seminar Series.
22. **Froehlich, C.Y.M.***, Heatwole, S.J., Klanten, O.S., Hing M.L., & Wong, M.Y.L. (August 2021). Do social structures of coral-dwelling gobies change along a spatial gradient? Oral Presentation. *The 58th Annual Conference of the Animal Behavior Society.* Virtual conference.
21. **Froehlich, C.Y.M.***, Klanten, O.S., Hing M.L., Dowton, M., & Wong, M.Y.L. (July 2021). Host coral plasticity in coral-dwelling gobies (genus *Gobiodon*) following multiple extreme climatic events. Oral Presentation. *The 14th International Coral Reef Society Conference.* Virtual Conference.
20. Heatwole, S.J., * **Froehlich, C.Y.M.**, Rueger, T., Klanten, O.S., & Wong, M.Y.L. (July 2021). Multi-scale comparisons of anemonefish social behaviour across ecological contexts for predicting resilience. Poster Presentation. *The 14th International Coral Reef Society Conference.* Virtual Conference.
19. **Froehlich, C.Y.M.***, Heatwole, S.J., Klanten, O.S., & Wong, M.Y.L. (December 2020). Who will recover: extreme climatic events affect habitat use and persistence of coral-dwelling fishes. Oral Presentation. *The 60th National Conference of the Ecological Society of Australia.* Virtual Conference.
18. Heatwole, S.J., * **Froehlich, C.Y.M.**, Rueger, T., Klanten, O.S., & Wong, M.Y.L. (December 2020). Large spatial scale comparisons of social behaviour across ecological contexts for predicting resilience. Oral Presentation. *The 60th National Conference of the Ecological Society of Australia.* Virtual Conference.
17. **Froehlich, C.Y.M.***, Heatwole, S.J., Klanten, O.S, & Wong, M.Y.L. (November 2020). Getting along: investigating spatial gradients of social hierarchies in groups of coral-dwelling gobies. Oral Presentation. *Annual HDR Conference, TEFKAK Conference, School of Earth, Atmospheric, and Life Sciences, University of Wollongong*, NSW, Australia.
16. Heatwole, S.J. *, **Froehlich, C.Y.M.**, Klanten, O.S., Rueger, T., & Wong, M.Y.L. (November 2020). Comparisons of anemonefish social behaviour across ecological contexts. Oral Presentation. *Annual HDR Conference, TEFKAK Conference, School of Earth, Atmospheric, and Life Sciences, University of Wollongong*, NSW, Australia.
15. Heatwole, S.J.*, Wong, M.Y.L., Rueger, T., **Froehlich, C.Y.M.**, & Klanten, O.S. (July 2020). Conflict vs cooperation: multi-species comparisons and how ecological factors shape social variation. Oral Presentation. *The 57th Annual Conference of the Animal Behavior Society.* Virtual conference.
14. **Froehlich, C.Y.M.***, Heatwole, S.J., Klanten, O.S., & Wong, M.Y.L. (July 2020). To swim or not to swim: decisions of translocated coral gobies in relation to habitat quality and social life. Oral Presentation. *The 57th Annual Conference of the Animal Behavior Society.* Virtual conference.
13. **Froehlich, C.Y.M.***, Hing, M.L., Klanten, O.S., Dowton, M. & Wong, M.Y.L. (October 2019). Coral bleaching affects assemblages and host coral occupancy of gobies more than cyclones. Oral Presentation. *Annual HDR Conference, Kioloa Postgraduate Conference, School of Earth, Atmospheric, and Life Sciences, University of Wollongong*, NSW, Australia.
12. **Froehlich, C.Y.M.***, Hing, M.L., Klanten, O.S., & Wong, M.Y.L. (May 2019). Consequential detriment to mutual coral and coral gobies following cyclones and bleaching events. Oral Presentation. *Australian Coral Reef Society*. Moreton Island, QLD, Australia.
11. **Froehlich, C.Y.M.*** (November 2018). What is the hype of group living? Investigating sociality in coral-dwelling gobies genus *Gobiodon*. Oral Presentation. *Kioloa Conference and the Center of Sustainable Environmental Solutions, University of Wollongong*, NSW, Australia.
10. Oquita, R.*, **Froehlich, C.Y.M.**, Lee, A., Shively, J.D., Shipley, J.B., & Cintra-Buenrostro, C.A. (April 2018). Age and growth of red snapper (*Lutjanus campechanus*) in four artificial reefs in South

Texas. Poster presentation. *University of Texas Rio Grande Valley Engaged Scholar Symposium.* Brownsville, MA, USA.

9. Kline, R.J.*, **Froehlich, C.Y.M.**, & Garcia, A. (January 2018). Home range of red snapper *Lutjanus campechanus* over a large artificial reef. Oral presentation. *42nd Annual Meeting of the Texas Chapter of the American Fisheries Society.* College Station, TX, USA.
8. **Froehlich, C.Y.M.***, Lee, A., Oquita, R., Cintra-Buenrostro, C.A., Shively, J.D., & Shipley, J.B. (August 2017). Inshore and offshore artificial reef comparison of population dynamics of the heavily-fished *Lutjanus campechanus*, Poey, 1860, in the northwestern Gulf of Mexico. Oral presentation. *147th Annual Meeting of the American Fisheries Society.* Tampa, FL, USA.
7. **Froehlich, C.Y.M.***, & Kline, R.J. (February 2015). Using fish population metrics to predict the ideal density of future concrete reefs. Oral presentation. *2nd Annual Texas Artificial Reef Consortium.* Texas Parks and Wildlife Department, Corpus Christi, TX, USA.
6. **Froehlich, C.Y.M.***, & Kline, R.J. (April 2014). Current composition of sportfish populations at an artificial reef off the coast of Texas. Oral presentation. *Texas Bays and Estuaries*. Port Aransas, TX.
5. **Froehlich, C.Y.M.*** (April 2014). Artificial reef density effects on fish communities and red snapper sizes in the Western Gulf of Mexico. Oral presentation. 3rd place award. *16th Annual University of Texas at Brownsville Research Symposium*. Brownsville, TX, USA.
4. **Froehlich, C.Y.M.***, & Kline, R.J. (March 2014). Culvert reef structure densities may affect fish community diversity in Western Gulf of Mexico. Oral presentation. *117th Annual Meeting of the Texas Academy of Science*. Galveston, TX, USA.
3. Kline, R.J.*, **Froehlich, C.Y.M.**, Arney, R.N., & Bollinger, M.A. (January 2014). Characterization of reef fish use by patch configuration on a shallow, turbid culvert reef system. Oral presentation. *1st Annual Texas Artificial Reef Consortium.* Texas Parks and Wildlife Department, Corpus Christ,USA.
2. **Froehlich, C.Y.M.***, & Kline, R.J. (November 2013). Fish diversity differs among varying densities of culvert reefs in the Gulf of Mexico. Poster presentation. *Gulf and Caribbean Fisheries Institute*. Corpus Christi, TX, USA.
1. **Froehlich, C.Y.M.***, & Kline, R.J. (October 2013). Culvert reef density affects fish communities at an artificial reef in the Gulf of Mexico. Poster presentation. *American Shore and Beach Preservation Association*. South Padre Island, TX, USA.

## INVITED SEMINAR PRESENTATIONS

9. "Functional relationships between animals and their habitats." **Froehlich, C.Y.M.** (September 2025). University Programs Fall Seminar Series: Dauphin Island Sea Lab. Dauphin Island, AL, USA.
8. "From Gobies to Nemos: linking symbioses, behavior and the coral reef environment of habitat specialist fishes." **Froehlich, C.Y.M.** (February 2023). University Programs Spring Seminar Series: Dauphin Island Sea Lab Seminar Series: Dauphin Island Sea Lab. Dauphin Island, AL, USA.
7. "Human impacts on coral reefs and fish behavior." **Froehlich, C.Y.M.** (May 2021). Bionet: The UOW Biology Network. Wollongong, NSW, Australia.
6. "Time to get social: what factors of ecology promote group living?" **Froehlich, C.Y.M.** (February 2021). *Lizard Island Research Station Seminar Series*. Lizard Island, QLD, Australia.
5. "Advantages of sociality in coral-dwelling fishes." **Froehlich, C.Y.M.** (February 2020). *Lizard Island Research Station Seminar Series*. Lizard Island, QLD, Australia.
4. "What is the hype of group living? A goby snapshot from the Indo-Pacific." **Froehlich, C.Y.M.** (September 2018). *Walindi Invited Seminars.* Kimbe Bay, PNG.
3. "Diving under the horizon will uplift your spirits as you discover a world full of life: a look into South Texas artificial reefs." **Froehlich, C.Y.M.** (November 2016). *South Texas Border Chapter Texas Master Naturalist Invited Seminars.* Mission, TX, USA.
2. "Reaction to underwater predators: does size even matter?" **Froehlich, C.Y.M.** (July 2014). *Monday Night Science Cafe hosted by University of Texas Brownsville Physics Department.* Brownsville, TX.

1. "Artificial reef communities: culvert patch density on species diversity." **Froehlich, C.Y.M.** (March 2013). *Coastal and Terrestrial Ecology Research Symposium hosted by University of Texas Brownsville.* Brownsville, TX, USA.

## AWARDS

*Editor's Choice*: Oikos Journal October 2024 issue*:* 2024
**Froehlich. C.Y.M.,** Heatwole, S.J., Klanten, O.S., Hing, M.L., Hildebrandt, C.A., Smith, J.O., Wong, M.Y.L. *2024*. Multi-level framework to assess social variation in response to ecological and social factors: modeled with coral gobies. Oikos. doi: 10.1111/oik.10669.

*ISBE 2020: Conference Best Abstracts Award* 2020
International Society for Behavioral Ecology
Abstract title: To swim or not to swim: decision making of translocated coral gobies in relation to habitat quality and social life

*ACRS Best Student Presentations – Honorary Mention* 2019
Australian Coral Reef Society, Australia
Project: Consequential detriment to mutual coral and dwelling gobies following cyclones and bleaching events

*3rd Place Award for Best Presentation* 2014
16th Annual University of Texas at Brownsville Research Symposium, USA

## OTHER RESEARCH EXPERIENCE

American Academy of Underwater Science (AAUS) Scientific Research SCUBA diver (2022-present). 830+ logged scientific research dives AND 1030+ hrs of research dives.

*Conference Organizer: Kioloa SEALS Postgraduate Conference* 2019
University of Wollongong, Australia

*Bat Telemetry and Trapping Assistant, Angelo State University* 2015
TX, USA

*Support Scientific SCUBA Researcher: University of Texas at Brownsville* 2012
Department of Biological Sciences, TX, USA

Research Expeditions & Cruises (*planned and led):

| | |
|---|---|
| Kimbe Bay, Papua New Guinea* | 2025 |
| Utila, Honduras | 2024 |
| Republic of Marshall Islands* | 2023 |
| Ningaloo Reef, Western Australia* | 2023 |
| One Tree Island, Australia* | 2022 |
| Lizard Island, Australia* | 2022 |
| Lizard Island, Australia* | 2021 |
| Lizard Island, Australia* | 2020 |
| Kimbe Bay, Papua New Guinea* | 2019 |
| One Tree Island, Australia* | 2019 |
| Kimbe Bay, Papua New Guinea | 2018 |
| Playa del Carmen, Mexico | 2018 |
| Lizard Island, Australia | 2018 |
| M/V Miss Vivian, Natural Reefs in Western Gulf of Mexico | 2017 |

M/V Miss Vivian, Natural Reefs in Western Gulf of Mexico 2017
R/V Fling, Natural Reefs in Western Gulf of Mexico 2014
R/V Fling, Artificial and Natural Reefs in Western Gulf of Mexico 2013

## SERVICE

*Scientific Advisory Committee Member* 2024-present
Mobile Bay Nat'l Estuary Program, USA
*Councillor: Australian Coral Reef Society* 2019-2023
*Conference moderator: ACRS conference, Animal Behavior Society,* 2018-present
and *UOW SEALS HDR conference*
*Community Liaison for Third Coast Science For You*, *a community-based journal* 2017-2018

Grant reviewer:
*National Science Foundation Full Panelist: Biology Directorate* 2025
*National Science Foundation: Grant* 2024
*Australian Coral Reef Society: Student Awards: Full Panelist* 2023
*U.S. National Marine Fisheries Institute* 2021

Peer reviews*:*
*Nature Climate Change, Scientific Reports, MEPS, Biology Letters ,Coral Reefs, Animals, Aquatic Biology, Environmental Biology of Fishes, Ecology and Evolution, Journal of Animal Ecology*

Cited Reviewer of Book:
'Coral reefs of Australia: perspectives from the water's edge', 2022. *Australian Coral Reef Society*. CSIRO Publishing, Australia.

Graduate Mentorship:
*Matthew Freiler, University of Alabama/Dauphin Island Sea Lab* 2025-present
*Nina Luckas, University of Alabama/Dauphin Island Sea Lab, PhD* 2024-present
*Korrie Brown, University of Alabama/Dauphin Island Sea Lab, MSc* 2023-present
*Tommaso Chiodo, University of Alabama/Dauphin Island Sea Lab, MSc* 2022-2024
*Courtney Hildebrandt, University of Wollongong, PhD* 2021-2025
*Adam Lee, University of Texas Rio Grande Valley, MSc* 2016-2018
*Al Alder, University of Texas Rio Grande Valley, MSc* 2016-2018
*Heather Otte, University of Texas Rio Grande Valley, MSc* 2016-2018
*Ethan Getz, University of Texas Rio Grande Valley, MSc* 2016-2017

Undergraduate Mentorship:
*Abby Yuen, NSF REU, Dauphin Island Sea Lab, CA State Polytechnic Uni. Pomona* 2025-present
*Sharia McCurry, University of South Alabama, Dauphin Island Sea Lab* 2025-present
*Adelaide Tomerlin, NSF RAMP BOAT post-baccalaureate student* 2025-present
*Gracie Semmens, University of California Berkeley* 2025-present
*Miriam Hill, University of Alabama* 2025-present
*Karlie Sims, University of Alabama* 2024-present
*Zach Schroeder, University of Alabama* 2024-present
*Ava Gordon, University of South Alabama, Dauphin Island Sea Lab* 2024
*Josie Pry, University of South Alabama, Dauphin Island Sea Lab* 2023-2024
*Kristine Shaw, Wofford College* 2022
*Victor Gaytan, University of Texas Rio Grande Valley, MSc* 2014-2015
From Course-based Research Publication: 2025
*Semyra Reus, Emi Moran, Gavin Evans, Gillian Farmer, Reagan Howard, Kaitlyn Skrove*

## OTHER TEACHING EXPERIENCE

*Secondary Instructor: Dauphin Island Sea Lab* 2025

*Demonstrator/Teaching Assistant: University of Wollongong* 2019

*Software Teacher*: *University of Texas Rio Grande Valley* 2014-2018
Software taught: Zotero, SPSS, PRIMER-E, R programming

*Invited Lecturer:* University of Texas at Brownsville 2014

*SCUBA Teaching Assistant: University of Massachusetts at Amherst* 2012

Classes Taught:
- Instructor on Record: General Biology II lectures, General Biology II laboratory
- Secondary Instructor/Teaching Assistant: Coral Reef Ecology, Biodiversity of Marine and Freshwater Organisms, General Biology I laboratory, Open Water SCUBA Diving

## DIVERSITY/EQUITY/INCLUSION EXPERIENCE

*School, Research, Career and Beyond: sessions to increase student access and success* 2025-present
Founder and co-lead. Dauphin Island Sea Lab

*Equity, Diversity, and Inclusion Committee: Postgraduate Working Group Representative* 2020-2023
Faculty of Science, Medicine, and Health, University of Wollongong
Acquired grant funding to initiate first-ever university wide student survey of EDI

*GAPS panelist: Closing the G.A.P.S. (Girls Aren't Pursuing Science)* 2016-2017
A Summer Institute to Foster Women Scientists and Engineers, Texas Southmost College

## OUTREACH EXPERIENCE

*Co-director and Host: Catch the Concept – science podcast* 2024-present

*Discovery Day: Dauphin Island Sea Lab* 2023, 2024, 2025

*News Interview: ABC Far North Queensland* 2021

*Prepared educational material: Mahonia Na Dari's Marine Environment Education Program* 2021

*Co-director and Host: The Graduates Sci-Com podcast* 2019-2021

*Skype-A-Scientist Outreach Scientist* 2016-present

*Advisor for the Graduate Student Alliance at the University of Texas Rio Grande Valley* 2016-2017

*Co-founder of the Brownsville branch of Nerd Nite events* 2015-2018

*Volunteer: Sea Turtle Inc. rehabilitation center* 2013-2018

*Public Outreach Educator: South Texas* 2012-2018

Oceanarium at Gladys Porter Zoo, Texas Sea Grant Floating Classroom Program, Rio Grande Science and Arts Festival, Alternative Spring Break for the Center for Civic Engagement, Fishing's Future, Judging at the Rio Grande Valley Regional Science and Engineering Fair

## COLLABORATORS

| | |
|---|---|
| Benjamin Titus | University of Alabama, Dauphin Island Sea Lab, USA |
| Pete Buston | Boston University, USA |
| Morgan Bennett-Smith | Boston University, USA |
| Eleanor Caves | Brown University, USA |
| Jolyon Troscianko | University of Exeter, UK |
| Shelby Rhinehart | University of Rhode Island, USA |
| O. Selma Klanten | University of Technology Sydney, Australia |
| Colin Wen | Tunghai University, Taiwan |
| Rachel Gunn | Tübingen University, Germany |
| Marian Wong | University of Wollongong, Australia |

## REFEREES

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