

# Carlos A. Santamaria, Ph.D.

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## EDUCATION

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09/2006-12/2013. Wildlife and Fisheries Sciences, PhD. Texas A&M University.  
*Dissertation Title:* Evolution of *Ligia* isopods across three highly dynamic geological regions  
*Dissertation Advisors:* Dr. Luis A. Hurtado and Dr. Mariana Mateos.

01/2002-12/2005. Biology, B.S. Texas A&M University.  
Honors: Graduated Summa Cum Laude; Dean's Honor Roll (4 semesters); Academic Excellence Award Scholarships (2003, 2004, 2005).

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## ACADEMIC EXPERIENCE

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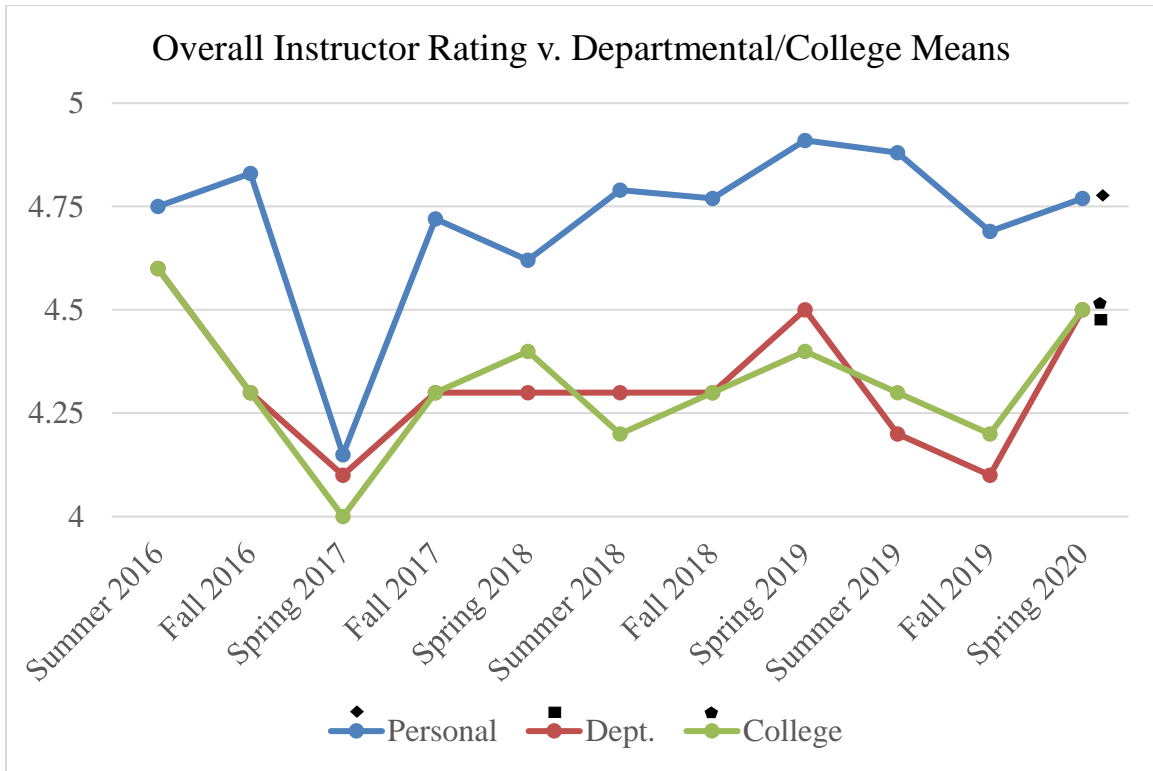
### *Positions*

Thomas University. **Affiliate Assistant Professor.** 2020/08 to Current day.  
University of South Florida Sarasota-Manatee. **Dean's Designee.** 2016/08 – 2020/05.  
University of South Florida Sarasota-Manatee. **Assistant Professor.** 2015/08 – 2020/05.  
Sam Houston State University. **Visiting Assistant Professor.** 2013/09 – 2015/06.  
Texas A&M University. **Graduate Assistant Teaching.** 2006/12 – 2013/05.  
Texas A&M University. **Aggie Access Teaching Assistant (Math).** 2003/01 – 2005/12  
Texas A&M University. **Grader (Business Math).** 2002/09 – 2002/12

### *Courses Taught*

BIO102	Principles of Biology II
BIO105	A Survey of Biology for Non-Majors
BIO308	Ecology
BIOL111	Introductory Biology (Majors introductory laboratory)
BIOL123	Introductory Biology Laboratory (Non-majors introductory laboratory)
BIOL335	Invertebrate Zoology Laboratory
BIOL1408/1308	Contemporary Biology (Non-majors introductory lecture course)
BIOL5360/4096	Principles of Systematics (Graduate level; cross-listed as undergraduate)
BSC2011	Biology II – Biological Diversity
BSC2011L	Biology II Diversity Laboratory
BSC3848	Scientific Communication
BSC4052	Conservation Biology
BSC4933	Selected Topics in Biology: Conservation Genetics
BSC4933	Selected Topics in Biology: Molecular Methods & Analyses
PCB3043	Principles of Ecology
PCB3043L	Principles of Ecology Laboratory
PCB4679	Biology Capstone: Evolution
REN205	Fundamentals of Ecology (Lecture Aide)
REN215	Fundamentals of Ecology Laboratory
MATH141	Business Mathematics I (Teaching Assistant for retention lab)
MATH166	Topics in Contemporary Mathematics II (TA for retention lab)

*Recent Student Evaluations  
(Overall Instructor Rating)*




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**RESEARCH EXPERIENCE**

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*Positions (additional to those listed previously)*

Texas A&M University. **Graduate Assistant Research.** 2006/12 – 2013/08.

Texas A&M University. **Research Assistant I.** 2005/12 – 2006/07.

Shoals Marine Laboratory. **Research Experience for Undergraduate Intern.** 2005/05 – 08.

Universidad Simon Bolivar, Caracas Venezuela. **Laboratory Assistant.** 2002/05 – 08.

*Refereed Publications*

*Undergraduate authors are underlined      \* indicates corresponding authorship*

1. **Santamaria CA\***, J Locascio, TM Greenan. (2020). First report of lionfish prey from Western Florida waters as identified by DNA Barcoding. PeerJ 8:e9922. doi: 10.7717/peerj.9922
2. **Santamaria CA\***. (2019) Molecular taxonomy of endemic coastal *Ligia* isopods from the Hawaiian Islands: re-description of *L. hawaiiensis* and description of seven novel cryptic species. PeerJ 7:e7531. doi: 10.7717/peerj.7531
3. Greenan TM, CL Griffiths, **CA Santamaria\***. (2018) Molecular approaches uncover cryptic diversity in intertidal *Ligia* isopods (Crustacea, Isopoda, Ligiidae) across the southern Africa coastline. PeerJ 6:e4658. doi: 10.7717/peerj.4658

4. Hurtado LA, M Mateos, C Wang, **CA Santamaria**, J Jung, V Khalaji-Pirbalouty, W Kim. (2018) Out of Asia: mitochondrial evolutionary history of the globally introduced supralittoral isopod *Ligia exotica*. PeerJ 6:e4337. doi.org: 10.7717/peerj.4337.
5. **Santamaria CA\***, JK Bluemel, N Bunbury, M Curran M. (2017) Cryptic biodiversity and phylogeographic patterns of Seychellois *Ligia* isopods. PeerJ 5:e3894. doi: 10.7717/peerj.3894.
6. **Santamaria CA\***, ET III Bischoff, M Aye, KW Phillips, V Overmeyer (2017) First record of the *Ligia baudiniana* species complex in the American Gulf of Mexico Coastline, as confirmed by morphological and molecular approaches. F1000Research 6: 1602. doi: 10.12688/f1000research.12459.1
7. Sisson MS, **CA Santamaria**, AJ Smith-Herron, TJ Cook, JL Cook (2016) Geographical color pattern of *Argia apicalis* (Odonata: Coenagrionidae) in the absence of molecular variation. Florida Entomologist 99(3): 355-362. doi: 10.1653/024.099.0303
8. **Santamaria CA**, M Mateos, TJ DeWitt, LA Hurtado (2016) Constrained body shape among highly genetically divergent allopatric lineages of the supralittoral isopod *Ligia occidentalis* (Oniscidea). Ecology and Evolution 6(5): 1537-1554. doi: 10.1002/ece3.1984
9. **Santamaria CA**, M Mateos, LA Hurtado (2014) Diversification at the narrow sea-land interface in the Caribbean: Phylogeography of endemic supralittoral *Ligia* isopods. Frontiers in Ecology and Evolution 2:42. doi: 10.3380/fevo.2014.00042
10. Hurtado LA, **CA Santamaria**, LA Fitzgerald (2014) The phylogenetic position of the endangered Saint Croix ground lizard *Ameiva polops*: Revisiting molecular systematics of West Indian *Ameiva*. Zootaxa 3794.2: 254-262. doi: 10.11646/zootaxa.3794.2.4
11. **Santamaria CA**, M Mateos, S Taiti, TJ DeWitt, LA Hurtado (2013) A complex evolutionary history in a remote archipelago: Phylogeography and morphometrics of the Hawaiian endemic *Ligia* isopods. PLoS ONE 8(12): e85199. doi: 10.1371/journal.pone.0085199
12. Eberl R, M Mateos, RK Grosberg, **CA Santamaria**, LA Hurtado (2013) Phylogeography of the supralittoral isopod *Ligia occidentalis* around the Point Conception marine biogeographic boundary. Journal of Biogeography 40(12): 2361-2372. doi: 10.1111/jbi.12168.
13. MacDonald MD, **CA Santamaria**, J Flemming, JY Honda, LA Hurtado (2013) Isolation and characterization of microsatellite DNA markers in the Greater Roadrunner (*Geococcyx californianus*). Conservation Genetics Resources 5(2): 319-322. doi: 10.1007/s12686-012-9793-4
14. Mateos M, LA Hurtado, **CA Santamaria**, V Leignel, D Guinot (2012) Molecular systematics of the deep-sea hydrothermal vent endemic brachyuran family Bythograeidae: A comparison of three Bayesian species tree methods. PLoS ONE 7: e32066. doi: 10.1371/journal.pone.0032066
15. Hurtado LA, **CA Santamaria**, LA Fitzgerald (2012) Conservation genetics of the Critically Endangered Saint Croix ground lizard (*Ameiva polops* Cope 1863). *Conservation Genetics* 13: 665-679. doi: 10.1007/s10592-012-0316-3
16. **Santamaria CA**, LA Fitzgerald, LA Hurtado (2011) Isolation and characterization of microsatellite DNA markers in the critically endangered St. Croix ground lizard *Ameiva polops*. Conservation Genetics Resources 3:641-643. doi: 10.1007/s12686-011-9423-6
17. Kelley SW, D Jr Ransom, JA Butcher, GG Schulz, BW Surber, WE Pinchak, **CA Santamaria**, LA Hurtado (2011) Home range dynamics, habitat selection, and survival of Greater Roadrunners. Journal of Field Ornithology 82: 165-174. doi: 10.1111/j.1557-9263.2011.00319.x

18. **Santamaria CA**, S Kelley, GG Schulz, D Jr Ransom, LA Hurtado (2010) Polymerase Chain Reaction-based sex identification in the Greater Roadrunner. *Journal of Wildlife Management* 74(6): 1395-1399. doi: 10.1111/j.1937-2817.2010.tb01263.x
19. Hurtado LA, M Mateos, **CA Santamaria** (2010) Phylogeography of supralittoral rocky intertidal *Ligia* isopods in the Pacific region from Central California to Central Mexico. *PLoS ONE* 5(7): e11633. doi:10.1371/journal.pone.0011633.
20. Donahue MJ, A Nichols, **C Santamaria**, P League-Pike, C Krediet, KO Perez, MJ Shulman (2009) Predation risk, prey abundance and the vertical distribution of large brachyuran crabs across the intertidal-subtidal gradient in the Gulf of Maine. *Journal of Crustacean Biology* 29(4): 523-531. doi: 10.1651/08-3061.1
21. Henrichs DW, MA Renshaw, **CA Santamaria**, B Richardson, JR Gold, L Campbell (2008) PCR Amplification of Microsatellites from Single Cells of *Karenia brevis* Preserved in Lugol's Iodine Solution. *Marine Biotechnology* 10(2): 122-127. doi: 10.1007/s10126-007-9044-y

*Publication Metrics*

(Per Google Scholar on 12/08/2020)

Number of peer-reviewed articles:	21
Total citations:	332
Mean citations per article:	15.81
h-index:	10
i10-index:	10

*Publications in Preparation*

- **Santamaria CA** and M. Koch. Phylogeography of *Deto* isopods in South Africa.
- **Santamaria CA**. Distribution of *Ligia* lineages in Hawai'i and the role of allopatric events in diversification along Hawaiian coastlines.

*Professional Presentations*

(Co-authored presentations included)

- 2020 Society for Integrated and Conservation Biology, Virtual Conference (co-author).
- 2018 Sharks International Conference in João Pessoa, Brazil.
- 2017 2017 Florida Oceans Day in Tallahassee, FL.
- 2016 XXV International Congress of Entomology in Orlando, FL (co-author in 3 posters).  
Ecological Integration Symposium 2016. College Station, TX.  
3rd Annual BioFlorida BioTech Expo 2016. Sarasota, FL.
- 2014 2014 Entomology in Portland, OR.
- 2013 Texas A&M Student Research Week in College Station, TX  
Texas A&M Ecology Integration Symposium in College Station, TX
- 2010 American Genetics Association Symposium in Hilo, HI  
Texas A&M Ecology Integration Symposium in College Station, TX  
Texas A&M Student Research Week in College Station, TX

- 2009 International Marine Conservation Congress in Washington, D.C.  
SACNAS National Conference in Dallas, TX  
6<sup>th</sup> Annual Texas A&M University System Pathways to the Doctorate Symposium in  
Commerce, TX
- 2008 SACNAS National Conference in Salt Lake City, UT  
Crustacean Society Summer Meeting in Galveston, TX
- 2006 ASLO Ocean Sciences Meeting in Honolulu, HI
- 2005 Texas A&M Student Research Week in College Station, TX  
Texas A&M Ecology Integration Symposium in College Station, TX  
REU Symposium at Shoals Marine Laboratory in Appledore Island, ME  
Leadership Alliance National Symposium in Boston, MA

*Presentation Awards:* 2013 Best Earth Sciences Oral Presentation (Graduate) at 2013 Texas A&M Student Research Week; 2008 Best Overall Presentation: Doctoral Level at the 6th Annual Pathways Student Research Symposium; 2008 Best Life Sciences Presentation: Doctoral Level at the 6th Annual Pathways Student Research Symposium; 2008 Best Poster Presentation at The Crustacean Society's Summer Meeting.

*Graduate Students Advised  
(In Alphabetical Order)*

1. Emily Galbraith. M.Sc. University of South Florida. An assessment of the effectiveness of eDNA detection of Eastern Indigo snakes (*Drymarchon couperi*). Co-advisor from 2018 to present day.
2. Kylee Nicole Kleiner<sup>†</sup>. M.Sc. Sam Houston State University. Morphology of the fossorial forelegs of Grylotalpidae (Orthoptera). Committee member from 2014 to 2015.

*Undergraduate Researchers Assistants Advised  
(In Alphabetical Order)*

1. Bryn Austin<sup>†</sup>. *Tylos* isopods in the Indo-Pacific: Are there any cryptic species?
2. In-Ja Beutel. Microbiomes of *Ligia exotica* isopods from the Tampa Bay area.
3. Austin Brenek. Does mercury pollution cause developmental instability in *Ligia exotica* from a Texas Bay?
4. Annie Cabrera<sup>† #</sup>. Hunting for signatures of hybridization between two highly divergent *Ligia occidentalis* lineages in the Santa Rosalia, Mexico area.
5. Jessica Fleming<sup>\* #</sup>. Development of microsatellite markers for the Greater Roadrunner *Geococcyx californianus*.
6. Ellen Giddens<sup>\* † #</sup>. Development of microsatellite markers for *Callinectes sapidus*.
7. Taylor Greenan<sup>\* † §</sup>. Phylogeography of *Ligia* isopods in South Africa.
8. Mariana Gonzalez<sup>† #</sup>. Amplification and sequencing of COI mitochondrial gene for *Ligia occidentalis* samples.
9. Kimberly Kackley<sup>† #</sup>. Genotyping of *Ameiva polops* samples using microsatellites.
10. Madison Koch<sup>† §</sup>. Sequencing of mitogenomes of several *Ligia* isopod species.
11. Lauren Lescure<sup>\* #</sup>. Cryptic diversity in *Ligia italica* populations from the western Mediterranean Sea.

12. Desiree Mosley <sup>†</sup> <sup>#</sup>. Amplification and sequencing of 16S rDNA mitochondrial gene for *Ligia occidentalis* samples.
13. Chedozie Okeafor. Amplification and sequencing of Cyt-b mitochondrial gene for *Ligia occidentalis* samples.
14. Yuma Ortiz. Does overall body shape morphology of *Ligia* isopods in Vanuatu differ between localities? Testing the effects of phylogenetic and ecological relatedness.
15. Lauren Prew <sup>†</sup> <sup>#</sup>. Hunting for signatures of hybridization between two highly divergent *Ligia occidentalis* lineages in the Santa Rosalia, Mexico area
16. Sharla Rafferty <sup>†</sup> <sup>§</sup>. Cryptic biodiversity of *Ligia* isopods in Vanuatu, a remote archipelago in the Pacific.
17. Nyssa Tarver. Effects of two tropical storms on the distribution of *L. hawaiiensis* lineages in the island of Hawai'i.
18. Maureen Wagner <sup>\*</sup> <sup>†</sup> <sup>#</sup> <sup>§</sup>. Morphometrics of *Ligia occidentalis* populations in California.
19. Micah Wagner <sup>#</sup>. Do *Ligia occidentalis* populations from polluted sites exhibit fluctuating asymmetry?
20. Michael Welps. Amplification and sequencing of mitochondrial genes of two Bythograeaid crabs species.

\* = Co-authorship in peer-reviewed publication or manuscript in preparation.

† = Presentation in scientific conference or symposium (past or upcoming).

§ = Award for presentation in scientific conference or symposium.

# = Acknowledgement in peer-reviewed publication.

## COMPETITIVE AWARDS

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### *Awards Granted*

2018	USF-SM Office of Research Equipment Grant. \$51,909. USF System New Researcher Grant. \$10,000. USF-SM Office of Research Pilot Research Grant. \$4,930. USF-SM Publication Support Grant. \$1,000. USF-SM Excellence in Research Award. \$1,000.
2016	USF-SM Professional Support Award. \$2,500.
2012	Tom Slick Graduate Fellowship. \$40,000.
2010	AGA Annual Symposium Travel Award. \$300. HLAE Community Impact Funds. \$2,500.
2008	Sloan Minority Ph.D. (MPHD) Program Fellowship. \$27,000. Hispanic Leaders in Agriculture and Environmental Sciences Fellowship. \$35,000 per year for 3 years. SACNAS National Conference Travel Scholarship. \$1,500. Ecology and Evolutionary Biology (EEB) Travel Scholarship. \$700. Graduate Enhancement Program Fund (GPEF). \$600.
2006	Texas A&M University Graduate Merit Fellowship. \$40,000. ASLO National Conference Travel Scholarship. \$1,500.

*Applications Submitted, Not Funded*

- 2018 **Sloan Scholars Mentoring Network.** “Understanding our Ecosystem: Exploring patterns of *L. exotica* microbiomes.” Role: PI. Amount requested: \$10,000.
- 2018 **Simons Foundation Early Career Investigator in Marine Microbial Ecology and Evolution.** “Microbiomes, Genes, And Morphology: The evolution of terrestrial isopods in Hawai’i.” Role: PI. Amount requested: \$540,000.
- 2017 **National Science Foundation.** “CAREER: Revealing marine predator-prey interactions with sight and sound - a new frontier in benthic ecology.” Role: Co-PI (PI: Dr. Matt Ajemian, FAU). Sub-award amount requested: \$46,954.
- 2016 **National Science Foundation.** “Collaborative Research: Coastal ecological processes and analytics.” Role: Co-PI (PI: Dr. Thomas DeWitt, TAMU). Sub-award amount requested: \$122,104.
- 2015 **Sloan Research Fellowships in Ocean Sciences.** “Phylogenomics of Indo-Pacific Isopods.” Role: PI. Amount requested: \$55,000.

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**SERVICE & PROFESSIONAL DEVELOPMENT**

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*Committees and Panels Served*

- Member of the Assessment committee at Thomas University.
- Dean’s Designee for the Natural Sciences in the College of Science and Mathematics.
- Leadership role in drafting, data collecting, and interpreting the assessment plan for the Biology program at USF-SM.
- Member of three search committees at USF-SM:
  - Founding Dean for the College of Science and Mathematics
  - Biology Visiting Instructor
  - Biology Laboratory Instructor (Chair)
- Research Lab Liaison to the USF System University Lab and Field Safety Committee.
- Member of the following committees at USF:
  - USF Consolidation Cluster K10.
  - USFSM Awards Committee.
  - Global Studies Committee at USF-SM.
- Member of the Incredi-Bull Critical Thinking Implementation Committee. Duties include:
  - IBCT Course Reviewer and Editor
  - IBCT-Mini Grants editor
- Ad hoc reviewer for *PeerJ*, *Conservation Genetics*, *Ecology and Evolution*, *International Journal of Tropical Biology and Conservation*, and *The Science of Nature* (Naturwissenschaften).
- Student Member of the Leadership Development for Success and Change (LDSC) steering committee at Texas A&M University. This Alfred P. Sloan Foundation funded committee was aimed at increasing retention rates of minority Ph.D. students.

*Workshops and Courses Completed*

- 2020**      **4<sup>th</sup> Annual Meeting in Conservation Genetics.** Senckenberg Gesellschaft für Naturforschung, Frankfurt, Germany.
- 2019**      **Integrative Taxonomy Course.** Muséum national d'Histoire naturelle, Paris, France.
- 2019**      **Critical Thinking, Ethics, and Decision-Making.** University of South Florida Sarasota-Manatee, Sarasota, FL.
- 2018**      **Incredi-Bull Critical Thinking Workshop.** University of South Florida Sarasota-Manatee, Sarasota, FL.
- 2018**      **Origins of Adaptive Radiation.** American Genetics Association. Waimea, HI.
- 2017**      **Online Proctoring with Proctorio.** University of South Florida Sarasota-Manatee, Sarasota, FL.
- 2016**      **Incredi-Bull Critical Thinking Workshop.** University of South Florida Sarasota-Manatee, Sarasota, FL.
- 2015**      **IBCT Faculty Development Workshop.** University of South Florida Sarasota-Manatee, Sarasota, FL.

*Professional Memberships  
(Past and Present)*

The International Biogeography Society (IBS); American Genetics Association (AGA); Phi Beta Kappa; Society for the Advancement of Chicanos and Native Americans in Science (SACNAS); The Crustacean Society.

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**OTHER SKILLS**

Fluent in Spanish; SCUBA Certified with > 250 dives, including several environmental conditions; well versed in international collections including sites in the Pacific and Hawai'i.



## REFERENCES

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**Deana Baker (current supervisor)**

Assistant Professor (Distant)  
Biology and Math/Science Division Chair  
Thomas University  
Email: [dbaker@thomasu.edu](mailto:dbaker@thomasu.edu)

**Dr. Sybil Bucheli (post-doctoral advisor)**

Associate Professor  
Dept. Biological Sciences  
Sam Houston State University  
Email: [bucheli@shsu.edu](mailto:bucheli@shsu.edu)

**Dr. Chris Randle (post-doctoral advisor)**

Associate Professor  
Dept. Biological Sciences  
Sam Houston State University  
Email: [randle@shsu.edu](mailto:randle@shsu.edu)

**Dr. Luis A. Hurtado (doctoral advisor)**

Associate Professor  
Dept. Wildlife and Fisheries Sciences  
Texas A&M University  
Email: [lhurtado@tamu.edu](mailto:lhurtado@tamu.edu)

**Dr. Mariana Mateos (doctoral co-advisor)**

Associate Professor  
Dept. Wildlife and Fisheries Sciences  
Texas A&M University  
Email: [mmateos@tamu.edu](mailto:mmateos@tamu.edu)

**Dr. Jim Locascio (collaborator)**

Program Manager  
Fisheries Habitat Ecology and Acoustics  
Mote Marine Laboratory  
Email: [locascio@mote.org](mailto:locascio@mote.org)

**Dr. Mary K. Wicksten**

Professor  
Dept. Biology  
Texas A&M University  
Email: [wicksten@bio.tamu.edu](mailto:wicksten@bio.tamu.edu)

**Dr. Thomas J. DeWitt (collaborator)**

Associate Professor  
Dept. Wildlife and Fisheries Sciences  
Texas A&M University  
Email: [tdewitt@tamu.edu](mailto:tdewitt@tamu.edu)

**Dr. Paul A. Kirchman (past supervisor)**

Dean of College of Science & Mathematics  
USF Sarasota-Manatee  
Email: [pkirchman@sar.usf.edu](mailto:pkirchman@sar.usf.edu)