

## Ari Ernesto Martínez

Department of Biological Sciences

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### Research Interests

The consequences of social behavior for community level patterns, heterospecific eavesdropping networks, the role of social systems in conservation biology

### Education

Ph.D. University of Florida, Department of Biology, University of Florida (2013)

Dissertation: *The role of interspecific communication in the organization of Amazonian mixed species flocks* Advisor: Dr. Scott Robinson

M.A. University of California, Santa Barbara, Aquatic Biology and Populations (1994)

B.A. University of California, Santa Barbara, Biology (1991)

### Research Appointments

2019-pres. **Assistant Professor**, California State University at Long Beach,

2017 -2018 **Chancellor's Postdoctoral Fellow**, Museum of Vertebrate Zoology, University of California, Berkeley. Faculty Mentor: Dr. Eileen Lacey. *Evaluating Signal Complexity: Do Alarm Calls Convey Detailed Information About Predator Threat?*

2017 **Postdoctoral Researcher**, Guangxi University, College of Forestry.

Faculty Mentor: Dr. Eben Goodale. *Incorporating sociality as a functional trait to understand island biogeography theory.*

2013-2016 **National Science Foundation Postdoctoral Research Fellow**, San Francisco State University, Biology Department. Faculty Mentor: Dr. Vance Vredenburg. *Evaluating species interactions in the organization of stable mixed species animal groups.*

2007-2012 **Graduate Student Researcher**, University of Florida, Department of Zoology. Faculty Mentor: Dr. Scott Robinson. Dissertation research in mixed species flocks in the Amazonian lowland rainforests of Bolivia and Peru.

2005-2006 **Avian Ecologist**, Instituto Boliviano de Investigación Forestal (NGO). *Determining the impacts of different logging treatments on the abundance and diversity of understory insectivorous birds in three forest types: the arid Chiquitano Forest; humid, transitional forests; and Amazonian lowland forests in Santa Cruz, Bolivia.*

2003-2004 **Project Investigator/Coordinator**, Bird Life International-Armonía (NGO).

Topic 1: *Evaluation of the effects of seasonal site visits in estimating local species richness in resident bird communities in lowland Amazonian forests of Tahuamanu and Federico Roman in Pando, Bolivia.*

Topic 2: *Evaluation of the population status of the Titicaca flightless grebe, Rollandia microptera, from both Bolivia and Peru.*

**Publications** (†shared first author, \*mentored students)

Published

- Gerson, J.R., N. Szponar, A.A. Zombrano, B. Berquist, E Broadbent, C.T. Driscoll, G. Erkenwick, D.C. Evers, L.E. Fernandez, H. Hsu-Kim, G. Inga, K.N. Landsale, M.J. Marchese, **A. Martínez**, C. Moore, W. Pan, R.O. Purizaca, V. Sánchez, M. Silman, E.A. Ury, C. Vega, M. Watsa, and E.S. Bernhardt. 2022. Amazon forests capture high levels of atmospheric mercury pollution from artisanal gold mining. *Nature Communications*. 13(1):1-10.
- Robinson, W.D., D. Errichetti, H. Pollock, **A.E. Martínez**, P.C. Stouffer, F.Y. Shen and J.G. Blake. 2021. Big Bird Plots: Benchmarking Neotropical bird communities to address questions in ecology and conservation in an era of rapid change. *Frontiers in Ecology and Evolution*. doi.org/10.3389/fevo.2021.697511.
- Carnes, B, M.A. Aponte, R.H. Munarriz and **A.E. Martínez**. 2021. Molt patterns and aging criteria for eight species of low elevation hummingbirds in southeastern Peru. *Ornitología Neotropical*. 32:103-112.
- Martínez, A.E.** †, E. Parra†\*, Gomez, J.P., and V.T.Vredenburg. 2021. Alarm responses among Amazonian Primates and Birds-Evidence for Cross-Taxon Eavesdropping Networks. *Oikos* DOI 10.1111/oik.08274.
- Martínez, A.E.**, H.S. Pollock and P. Rodrigues, J.M. Touchton. 2021. Army-ant following in Neotropical birds – a review and prospectus. *Ornithology* 138:1-16.
- Carnes H. and **A.E. Martínez**. 2020. A record of House Sparrow from Cocha Cashu Biological Station, Parque Nacional Manu. *Cotinga* 42:37-38.
- Goodale, E, H. Sridhar, K. Sieving, P. Bangal, ZG Colorado, D. Farine, E. Heymann, H. Jones, I. Krams, **A.E. Martínez**, F. Montaña-Centellas, J. Muñoz, U. Srinivasan, A. Theo, K. Shanker. 2020. Mixed company: A framework for understanding the composition and organization of mixed-species animal groups. *Biological Reviews*. 95(4):889-910.
- Hunts, C.\*, Heather M.\*, **A.E. Martínez**, Parra E.\* 2019. “Experimental evidence of alarm eavesdropping on Amazonian mixed-flock followers by two social sentinel species: The Dusky-throated Antshrike, *Thamnomanes ardesiacus*, and the Cinerous-Antshrike *T. schistogynus*. *Ornitología Neotropical*. 30:224-228.
- Camerlenghi, E.\*, P. Tellaroli, M. Griggio and **A.E. Martínez**. 2019. Information about Predators Varies across an Amazon Rainforest as a Result of Sentinel Species Distribution. *American Naturalist* 194(5):E134-E139.
- Parra, E.\*, M. Riegner\*, J.N. Novoa, and **A.E. Martínez**. 2019. Observations of Rufous-vented Ground Cuckoos (*Neomorphus geoffroyi*) Associating with mixed-species flocks. *Cotinga*. 46:94-97.
- Lee, T., Zou, F., Sieving, K., Jiang, D., Jones, H., Zhang, M., Zhang Q., **Martínez, A.E.**, and E. Goodale. 2018. The conservation implications of mixed-species flocking in birds, a globally-distributed species interaction network. *Biological Conservation* 224:267-276.
- Martínez, A.E.**, E. Parra\*, O. Muellerklein\*, and V.T.Vredenburg. 2018. Fear-based niche shifts in neotropical birds. *Ecology* 99(6):1-8.
- Martínez, A.E.**, H.S. Pollock, J.P. Kelley and C.E. Tarwater. 2018. Social information cascades influence the formation of mixed-species flocks of ant-following birds in the Neotropics. *Animal Behavior* 135:25-35.
- Pollock†, H.S., **A.E. Martínez**†, J.P. Kelley, J. M. Touchton and C.E. Tarwater. 2017. Heterospecific eavesdropping in ant-following birds of the Neotropics is a learned behavior. *Proceedings B of the Royal Society B*. 284(1865):20177185.
- Martínez, A.E.**, E. Parra\*, L.F. Collado, and V.T.Vredenburg. 2017. Deconstructing the landscape of fear in stable multi-species societies. *Ecology*. 98(9):2447-2455.
- Martínez, A.E.**, and S.K. Robinson. 2016. Using foraging ecology to elucidate the role of species interactions in two contrasting mixed-species flock systems in north-eastern Peru. *Wilson Journal of Ornithology*. 128(2):378-390.

- Martínez, A.E.**, J.P. Gomez, J.M. Ponciano, and S.K. Robinson. 2016. Functional traits, flocking propensity, and perceived predation risk in an Amazonian understory bird community. *American Naturalist*. 187(5):607-619.
- Yap, T.A., S. Ellison, S.V. Flechas, L. Gillespie, M.S. Koo, **A.E. Martínez**, and V.T. Vredenburg. 2015. Invasion of the fungal pathogen *Batrachochytrium dendrobatidis* on California Islands. *Ecohealth*. 13(1):145-150.
- Goodale, E., P. Ding, L. Xiaohu, **A.E. Martínez**, S. Xingfeng, M. Walters, and S.K. Robinson. 2015. The structure of multi-species flocks and their role in the organization of forest bird communities, with special reference to East Asia. *Avian Research*. 6(1):1-11.
- Martínez, A.E.** and J.P. Gomez. 2013. Are mixed-species bird flocks stable through two decades? *American Naturalist*. 181(3):E53-E59.
- Martínez, A.E.** and R.T. Zenil. 2012. Foraging guild influences dependence on heterospecific alarm calls in Amazonian bird flocks. *Behavioral Ecology*. 23:544-550.
- Steadman, D.W., J.R. Montambault, S.K. Robinson, S.J. Oswalt, T.J. Brandeis, G. Londoño, M.J. Reetz, W.M. Schelsky, N.A. Wright, J.P. Hoover, J.J. Jankowski, A.W. Kratter, **A.E. Martínez**, and J. Smith. 2009. Relative abundance, habitat use, and long-term population changes of wintering and resident landbirds on St. John, U.S. Virgin Islands. *Wilson Journal of Ornithology*. 121(1):41-53.
- Martínez, A.E.**, D. Aranibar, and E.G. Guitierrez. 2006. An assessment of the distribution and abundance of the Titicaca flightless grebe, *Rollandia microptera*, on Lake Titicaca and an evaluation of its conservation status. *Bird Conservation International*. 16(3):237-251.
- Osenberg, C.W., C. J. F. Huckins, T. Kaltenberg, **A.E. Martínez**. 2004. Resolving within- and between-population variation in feeding ecology with a biomechanical model. *Oecologia*. 141:57-65.

#### In Review

- Martínez, A.E.**, X. Si, L. Zou, D. Zeng, P. Deng, and E. Goodale. Interspecific sociality alters the colonization and extinction rates of island birds. *Philosophical Transactions of the Royal Society*.
- Martínez, A.E.**, J.M. Ponciano, J.P. Gomez, T. Valqui, J. Novoa, E. Camerlenghi, B.H. Carnes, E. Parra, J. Fitzpatrick, S.K. Robinson, J. Socolar, and J. Terborgh. The structure and organization of an Amazonian bird community remains little changed after nearly four decades. *Ecology Letters*.
- Fernández-Arellano G.J., V. Aguiar de Souza Penha, C.L. Rutt, **A.E. Martínez**. Participation in avian mixed-species flocks influences foraging and vigilance behavior in two species of Neotropical woodcreepers. *Ornitología Neotropical*.

#### Book Chapters and other Publications

- Flores, B and **A.E. Martínez**. 2007. The biological monitoring of understory birds in forests with different timber harvesting intensities. Project BOLFOR/ Bolivian Institute of Forest Science. Santa Cruz, Bolivia.

#### **Invited Talks**

- Martínez, A.E.** 2020. An alarming forest: the causes and consequences of eavesdropping for an Amazonian bird community. UC Los Angeles, California, U.S.A.
- Martínez, A.E.** 2020. The causes and consequences of heterospecific eavesdropping. The Field Museum of Chicago. Chicago, U.S.A.
- Martínez, A.E.** 2020. An alarming forest: the causes and consequences of eavesdropping for an Amazonian bird community. University of Illinois, Champagne-Urbana, Illinois, U.S.A.
- Martínez, A.E.** 2019. Fear in the forest: the causes and consequences of eavesdropping for an Amazonian bird community. UC San Diego, California, U.S.A.
- Martínez, A.E.** 2019. An alarming forest: the causes and consequences of eavesdropping for an Amazonian bird community. Cal Poly San Luis Obispo, California, U.S.A.
- Martínez, A.E.** 2019. An alarming forest: the causes and consequences of eavesdropping for an Amazonian bird community. UC Berkeley, California, U.S.A.

- Martínez, A.E.** 2018 Eavesdropping and the ecology of mixed-species flocks. UC Davis, California, U.S.A.
- Martínez, A.E.** 2018 El uso de información social y sus consecuencias para el nicho ecológico en bandadas mixtas de aves neotropicales. ICESI, Cali, Colombia.
- Martínez, A.E.** 2018 Eavesdropping and the ecology of mixed-species flocks. California State Long Beach, Long Beach, California, U.S.A.
- Martínez, A.E.** 2017 Eavesdropping influences the realized niche of neotropical mixed-species bird flocks. University of California, Berkeley, U.S.A.
- Martínez, A.E.** 2015 Causas y consecuencias de información social en la organización de bandadas mixtas del Nootropic. ICESI, Cali, Colombia.
- Martínez, A.E.** 2015 The consequences of public information use for the organization of mixed-species bird flocks. San Francisco State University, San Francisco, California, U.S.A.
- Martínez, A.E.** 2014 Comunicación interespecifica y la organización de bandadas mixtas del sotobosque. La Universidad Agraria, La Molina, Peru.

### **Presentations at Professional Meetings**

- Gomez, J.P., **A.E. Martínez**, J.P. Ponciano, T. Valqui, J. Novoa, M.M. Aponte, G. Biscarra, E. Camerlenghi, B. Carnes, R.H. Munarriz, E. Parra, J. Socolar, J. Fitzpatrick, S.K. Robinson, and J.W. Terborgh. 2022. Challenges and Innovations for censusing neotropical bird communities: A case study from southeastern Peru. American Ornithological Conference, Puerto Rico, U.S.A.
- Martínez, A.E.**, J.P. Ponciano, J.P. Gomez, T. Valqui, J. Novoa, E. Parra, J. Socolar, J. Fitzpatrick, S.K. Robinson, and J.W. Terborgh. 2020. Revisiting the structure and organization of a Peruvian Amazonian forest bird community after three decades. North American Ornithological Conference, Puerto Rico, U.S.A.
- Martínez, A.E.**, E. Parra, O. Muellerklein, and V.T. Vredenburg. 2020. Fear-based niche shifts in neotropical birds. *Gordon-Grey Predator Prey Conference*, Ventura, CA, U.S.A.
- Martínez, A.E.**, X. Si, P. Ding, and E. Goodale. 2018. Sociality influences colonization and extinction rates of birds on islands. *Association for Tropical Biology and Conservation*, Kuching, Malaysia.
- Martínez, A.E.**, E. Parra, O. Muellerklein, and V.T. Vredenburg. 2018. The ecology of fear in mixed-species bird flocks. *Simposio de Aves del Valle*, Universidad del Valle, Cali, Colombia.
- Martínez, A.E.**, E. Parra, L.F. Collado, and V.T. Vredenburg. 2018. Deconstructing the landscape of fear in multi-species stable societies. *Gordon-Grey Conference*, Ventura, U.S.A.
- Martínez, A.E.**, E. Parra, O. Muellerklein, and V.T. Vredenburg. 2018. Fear-based niche shifts in neotropical birds. *American Society of Naturalists*, Pacific Grove, U.S.A.
- Martínez, A.E.**, E. Parra, L.F. Collado, and V.T. Vredenburg. 2017. Variation in vigilance in multi-species stable societies. *Ecological Society of America*, Portland, U.S.A.
- Martínez, A.E.**, E. Parra, O. Muellerklein, and V.T. Vredenburg. 2017. Fear-based niche shifts in neotropical birds. *Association for Tropical Biology and Conservation*, Xishuangbanna Tropical Botanical Gardens, China.
- Martínez, A.E.**, H. Pollock, J.P. Kelly, and C. Tarwater. 2016. The dynamics of heterospecific eavesdropping in the antswarm following mixed-species bird flocks of the neotropics. *Ecosummit Conference*, Montpellier, France.
- Martínez, A.E.**, O. Muellerklein, and V.T. Vredenburg. 2016. Evaluating the role of an alarm-calling bird on the cohesion and habitat use of Amazonian mixed-species flocks. *North American Ornithological Conference*, Washington, D.C., U.S.A.
- Martínez, A.E.**, O. Muellerklein, and V.T. Vredenburg. 2016. Evaluating the role of an alarm-calling bird on the cohesion and habitat use of Amazonian mixed-species flocks. *Ecological Society of America*, Ft. Lauderdale, Florida, U.S.A.
- Martínez, A.E.** and H. Pollock. 2015. Nosy neighbours and the role of heterospecific eavesdropping on the dynamics of antswarm following bird flocks. OTS course for Latin American students, Barro Colorado Island.

- Martínez, A.E.**, J.P. Gomez, J.M. Ponciano, and S.K. Robinson. 2014. Functional traits and predation risk in an Amazonian bird community. *Gordon Research Conference*, Ventura, California, U.S.A.
- Martínez, A.E.** and J.P. Gomez. 2013. Are mixed-species flocks stable through two decades. *Wilson Ornithological Conference*, Williamsburg, Virginia, U.S.A.
- Martínez, A.E.**, 2012. Characterizing assembly rules in Amazonian mixed-species flocks across habitats. *North American Ornithological Conference*, Vancouver, British Columbia, Canada.
- Ungvari-Martin, J., **A.E. Martínez**, and S.K. Robinson. 2010. Variation in understory bird communities of Amazonian forests on different soils. *Wilson Ornithological Conference*, Ithaca, New York, U.S.A.
- Martínez, A.E.** 2006. Assessing the effects of silvicultural practices on understory insectivorous birds. *Conference on the Sustainable Use of Forest Products*, Santa Cruz, Bolivia.
- Martínez, A.E.** 2005. The status of the Titicaca flightless grebe, *Rollandia microptera*, on Lake Titicaca: recommendations for future conservation efforts. *5th Annual Conference of Ornithology*, Santa Cruz, Bolivia.

### Grants, Fellowships, and Awards

- 2021 NSF; Collaborative Proposal-The Relative Importance of Alarm and Safety Communication Networks in an Amazonian Bird Community; A.E. Martínez (PI), D.T. Blumstein (co-PI) (3-years CSULB:\$512,458,Total:\$755,743)
- 2019 Microsoft AI for Earth (\$15,000)
- 2017 National Geographic Society (\$29,800)
- 2017 UC Berkeley Chancellor's Fellowship (\$60,000)
- 2016 National Geographic Society (\$19,896)
- 2015 Howard Hughes Medical Institute –San Francisco State University (\$1200)
- 2014 Gordon Research Conference Ventura, California, U.S.A. (\$1000)
- 2013 National Science Foundation Postdoctoral Fellowship (\$207,000)
- 2012 Wilson Ornithological Society Travel Grant (\$300)
- 2012 Graduate Student Council Travel Grant (\$350)
- 2012 National Science Foundation- SEAGEP Travel Grant (\$1000)
- 2011 Centre National de la Recherche Scientifique Research Grant (\$9656)
- 2010 American Ornithologist's Union Alexander Wetmore Research Award (\$1500)
- 2010 Riewald-Olowo Memorial Fund Research Grant (\$300)
- 2010 Sigma Xi Grants in Aid of Research (\$700)
- 2009 Frank Chapman Memorial Fund, American Museum of Natural History (\$1800)
- 2009 Optics for the Tropics (\$600)
- 2009 National Science Foundation-Southeastern Alliance Graduate Education Program (\$18,000)
- 2006 – 2008 National Science Foundation-Integrated Graduate Education Research Training Fellowship Program "Working Forests in the Tropics" (\$44,000)
- 1991 University of California Scholars Minority Fellowship Program (\$36,000)
- 1990 National Science Foundation-REU Fellowship Program (\$3000)

### Internal Awards

- 2022 Beach Mentor Award-Completed the Advancing Inclusive Mentoring/Beach Mentor program at Cal State University Long Beach
- 2022 Nominated for Early Career Excellence Award

### Courses Taught at CSULB

Ornithology (Biol 424/524)

Tropical Ecology (Biol 454/554)

Seminar: Urban Ecology/Indirect Effects of Predation Risk on Communities (Biol 665)

### **Additional Teaching Experience**

- 2015 **Instructor/Developer**, San Francisco State University  
Field Course: Research Design and Techniques for Ecology (in Colombia).  
Designed curriculum, instructed course, and organized logistics for course implementation.
- 2015 **Instructor Trainee**, Howard Hughes Medical Institute, San Francisco State University  
Participated in the Scientific Teaching Winter Institute.
- 2011-2012 **Graduate Student Instructor**, University of Florida  
Avian Biology. Organized laboratory sections and field trips and provided guest lectures.
- 2008-2013 **Instructor/Developer**, University of Florida  
Field Course: Research Design and Techniques for Ecology (in Peru and Colombia).  
Designed curriculum, instructed course.  
Field Course: Exploring REDD alternatives in Bolivia. Co-designed curriculum and coordinated logistics.
- 2007,2013 **Graduate Student Instructor**, University of Florida  
Introductory Biology. Organized and taught laboratory sections.

### **Guest Lectures**

- 2016 Ecology and Behavioral Ecology, San Francisco State University
- 2015 Ecology and Avian Biology, San Francisco State University
- 2014 Ecology, San Francisco State University
- 2010-2012 Avian Biology, University of Florida
- 2009 Tropical Ecology, University of Florida

### **Student Mentorship**

\*Co-author or preparing manuscript for publication from my research program

<sup>T</sup>Thesis student from my research program

<sup>U</sup> Underrepresented groups in STEM

#### *Master's Students-Martínez as co-advisor (completed)*

Ettore Camerlenghi (Masters Student, 2016, University of Padua)\*<sup>T</sup>

Eliseo Parra (Masters Student, 2014, San Francisco State University)\*<sup>TU</sup>

#### *Master's Students-Martínez as chair (in progress)*

Ynez Díaz (Masters Student, California State University Long Beach) <sup>U</sup>

Chelsey Hunts (Masters Student, California State University Long Beach) <sup>U</sup>

Alex Bartolo (Masters Student, California State University Long Beach)

Benjamin Ewing (Masters Student, California State University Long Beach)

William Sweet (Masters Student, California State University Long Beach) <sup>U</sup>

#### *Master's Students-Martínez as committee member (in progress)*

Stephanie Martínez (Masters Student, California State University Long Beach) <sup>U</sup>

Jess Burton (Masters Student, California State University Long Beach)

Whitney Jones (Masters Student, California State University Long Beach)

David Boehmer (Masters Student, California State University Long Beach)

#### *Master's Students-Martínez as committee member (completed)*

Josephine Rodriguez (Masters Student, California State University Long Beach) <sup>U</sup>

Katrina Cazal (Masters Student, California State University Long Beach) <sup>U</sup>

Nicole Lopez (Masters Student, California State University Long Beach) <sup>U</sup>

Hannah Rabbitoy (Masters Student, California State University Long Beach) <sup>U</sup>

Amanda Martínez (Masters Student, California State University Long Beach)<sup>U</sup>  
Daniel Donovan (Masters Student, California State University Long Beach)

*Post-Undergraduate and Undergraduate Students*

Mariana Leyva (Undergraduate, CSULB)<sup>U</sup>  
Benjamin Vu (Undergraduate, CSULB)<sup>U</sup>  
Krista Dajay (Undergraduate, CSULB)<sup>U</sup>  
Alyssa Adams (Undergraduate, CSULB)<sup>U</sup>  
Ynez Díaz (Undergraduate, CSULB)<sup>U</sup>  
Rosalinda Contreras (Undergraduate, CSULB)<sup>U</sup>  
Chelsey Hunts (Independent Research, 2016, Portland State University)<sup>\*U</sup>  
Meredith Heather (Independent Research, 2016, Texas State University)<sup>\*U</sup>  
Raquel Reyes (Undergraduate, 2016, San Francisco State University)<sup>U</sup>  
Yaquelin Tenebrios (Undergraduate Thesis Student, 2014, Universidad Federico Villarreal)<sup>TU</sup>  
Erika Berrocal (Research Assistant, 2014, Universidad de la Agraria Nacional La Molina)<sup>TU</sup>  
Micah Riegner (Independent Research, 2014, Prescott College)<sup>\*</sup>  
Oliver Muellerklein (Research Assistant, 2013, Washington College)<sup>\*</sup>  
Mitchell Serrota (Research Assistant, 2013, Connecticut College)  
Stephanie McClelland (Research Assistant 2013, University College Dublin, Ireland)  
Jessica Burnett (Research Assistant, 2012, University of Florida)<sup>U</sup>  
Armando Aispuro (Undergraduate Thesis Student, 2010, Humboldt State University)<sup>U</sup>  
Karina Quinteros Leon (Research Assistant, 2010, Universidad de la Agraria Nacional La Molina)  
Paul Elsen (Research Assistant, 2009, UC Berkeley)  
Jenny Muñoz (Research Assistant, 2009, Universidad de Antioquia)<sup>U</sup>  
Gilberto Fernandez (Thesis Student, 2009, Universidad Nacional de la Amazonía Peruana)<sup>T</sup>  
Guillaume Quenet (Research Assistant, 2009, Universidad Nacional de Bogotá)

**University Service**

2022 Concilio of Latinx Success  
2021 Graduate Selection Committee  
2020 Scholarship Review Committee

**Professional Service**

2022 **NSF Review Panel**-Panel Reviewer  
2020-2022 **ESA: Program Committee**-Host ESA Long Beach  
2010 - Present **Journal Referee:** Animal Behaviour, Behavioral Ecology, Ecology and Evolution, Frontiers in Ecology and Evolution, Current Biology, Journal of Animal Ecology, The Auk, Ornithological Applications, PLOS ONE, Ethology, Biotropica, Wilson Journal of Ornithology, Revista Boliviana de Ecología y Conservación Ambiental, Marine and Freshwater Behaviour and Physiology  
2010 - Present **Professional Societies:** Ecological Society of America, Animal Behavior Society, Association of Tropical Conservation and Biology, American Ornithological Society, Society for the Advancement of Chicanos/Hispanics and Native American Americans in Science  
2011-2013 **Graduate Student Service:** Biology Graduate Student Association Awards Committee, Secretary, Vice President: University of Florida Department of Biology  
2009 **Co-organizer/Steering Committee:** Conference for Working Forests in the Tropics “Partnering Research with Practice for Conservation and Development”, University of Florida

## Public Outreach

*K-12 outreach:* (i) Inquiry-based videos using EdPuzzle for Oakland Unified School District School District which serves large Latino student population. Inquiry-based videos for 10-unit sequence for middle school science education (ii) *Exploring by the seat of your pants:* Interactive video-lesson on exploring the amazon with 225 students in the southeastern U.S..(iii) Exploring by the seat of your pants with 10 immigrant students in the Midwest (iv) 3) Dinner with a Scientist with Oakland Unified School District.

*General Public Outreach:* Public talks for 1) Modesto Area Partners in Science, 2) National Geographic Explorers Festival, 3) Los Angeles Audubon Society, 4) Santa Monica Bay Audubon, 5) Institute or Conservation, Research, and Education 6) Popular science magazines and blogs: National Geographic for Kids Magazine Feature Article, IFLS, Science Trends, and Fred's Ecology and Environmental Tales.