

# Windsor E. Aguirre

## Curriculum Vitae

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### CONTACT INFORMATION:

DePaul University  
Department of Biological Sciences  
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### EDUCATION:

- Ph.D. 2007. Ecology and Evolution, Stony Brook University
- M.S. 2000. Biological Sciences, University of Southern Mississippi
- B.S. 1996. Biology, University of Guayaquil, Ecuador

### ACADEMIC APPOINTMENTS:

- Professor, July 2022 - Present, Dept. Biological Sciences, DePaul University
- Associate Professor, July 2016 - Present, Dept. Biological Sciences, DePaul University
- Assistant Professor, July 2009 – June 2016, Dept. Biological Sciences, DePaul University
- Turner Faculty Trainee, August 2007-June 2009, Dept. Ecology and Evolution, Stony Brook University

### PROFESSIONAL APPOINTMENTS:

- Research Associate, Field Museum of Natural History, January 2017 - Present.
- Research Associate, Instituto Nacional de Biodiversidad del Ecuador, December 2019-Present.
- Research Associate, Museo Ecuatoriano de Ciencias Naturales, January 2012 – January 2017.
- Academic Editor PLoS One, August 2018 – Present.
- Academic Editor Neotropical Biodiversity, September 2021-Present.

### TEACHING EXPERIENCE:

#### Undergraduate Courses:

- Evolution in Health and Medicine, BIO 110
- Vertebrate Diversity and Evolution, BIO 124
- General Biology II for Majors, BIO 192
- Lab Instructor, General Biology II, BIO 192L
- Biostatistics, BIO 206
- Evolution, BIO 235
- Molecular Methods in Ecology and Evolution, BIO 321
- Concepts in Evolution, BIO 335
- Biology Senior Capstone, BIO 395

#### Study Abroad:

- Short-term study abroad program - Galapagos: Evolution and Society (Spring/Summer)
  - Evolution and Society, BIO 104
- First year study abroad program – Biodiversity and the Modern Extinction Crisis (Winter/Spring Break)
  - Focal Point Seminar, LSP 112

**Graduate Courses:**

- Molecular Methods in Ecology and Evolution, BIO 421 (joint enrollment with BIO 321)
- Concepts in Evolution, BIO 435 (joint enrollment with BIO 335)
- Thesis Research, BIO 499
- Candidacy Continuation, BIO 502
- Candidacy Maintenance, BIO 503

**Graduate Student Mentoring (Chair):**

- Christian Graca. M.S. Student. Winter 2023 - Present
- Kaleigh Arnold. M.S. Student. Fall 2021 - Present
- Olivia Schweikart. M.S. Student. Fall 2021 - Present
- César Fuentes. M.S. Student. Fall 2020 - Graduated Summer 2022 (co-advised w/ Caleb McMahan, Field Museum)
- Xavier Pino. M.S. Student. Fall 2020 - Winter 2021 (did not graduate)
- Joe Forberg. M.S. Student. Fall 2016 - Graduated Summer 2022
- Konrad Taube. M.S. Student. Fall 2019 - Graduated Summer 2021 (co-advised w/ Caleb McMahan, Field Museum)
- Jessica Vaclav. M.S. Student. Fall 2017 – Graduated Summer 2020
- Sara Alharbi. M.S. Student. Winter 2017 – Graduated Fall 2019
- Roberto Cucalon. M.S. Student. Fall 2016 – Graduated with distinctions Winter 2019
- Grace Malato. M.S. Student. Fall 2013- Graduated Fall 2015
- Winer Reyes. M.S. Student. Fall 2013- Graduated Summer 2015
- Seth Contreras. M.S. Student. Fall 2012- Spring 2014 (did not graduate)
- Cory Drevecky. M.S. Student. Fall 2009- Graduated with distinctions Spring 2011

**Graduate Thesis Committees:**

- Adrianna Yoder. M.S. Student. Fall 2022-Present
- Marcelina Skowronski. M.S. Student. Fall 2022-Present
- Jake Wood. M.S. Student. Fall 2021-Present
- John Juranek. M.S. Student. Fall 2020-Present
- Alexandra Krak. M.S. Student. Fall 2020-Present
- Sofia Rivera. M.S. Student (Combined program). Fall 2020-Present
- Olivia LaMore. M.S. Student. Fall 2019 – Present
- Ike Burns. M.S. Student. Fall 2018-Present
- Myles Walsh. M.S. Student. Fall 2019-Graduated Summer 2021
- Geena Fritzmann. M.S. Student. Fall 2018-Graduated Fall 2020
- Abby Leeper. M.S. Student. Fall 2018-Graduated Summer 2020
- Riley Hacker. M.S. Student. Fall 2018-Graduated Summer 2020
- Evan Cowles. M.S. Student. Fall 2018-Summer 2019
- Phil Sternes. M.S. Student. Fall 2017-Graduated Summer 2019
- Heidi Luczynski. M.S. Student. Fall 2016-Graduated Summer 2019
- Max London. M.S. Student. Fall 2015-Graduated Summer 2019
- Joe Frumkin. M.S. Student. Fall 2015-Graduated Summer 2019
- Taylor Mitchell. M.S. Student. Graduated Fall 2018
- Annie McIntosh. M.S. Student. Graduated Summer 2017
- Alaina Pfenning. M.S. Student. Graduated Summer 2017
- Tracy Park. M.S. Student. Fall 2014-Graduated Summer 2016

- Ciaran Shaughnessy. M.S. Student. Graduated Fall 2015
- Amanda Wolske. M.S. Student. Graduated Fall 2015
- Kelly Bice. M.S. Student. Graduated Summer 2015
- Shelby Judd. M.S. Student. Graduated Fall 2012
- Dale Kopp. M.S. Student. Graduated Summer 2012
- Sun Kim. M.S. Student. Graduated Winter 2009

**Undergraduate Student Mentoring (Subsequent Graduate/Professional Studies):**

- Owen Howard – Fall 2022 - Present
- Gemma Landa – Fall 2022 - Present
- Alison Ritter – Fall 2022 - Present
- Mario Landa – Spring 2022 - Present
- Hannah Willis – Spring 2022 - Present
- Katlin Jacoby – Spring 2022 - Present
- Emily Kon – Fall 2021 – Spring 2022
- Victoria Salazar – Fall 2021 – Spring 2022
- Shruti Brahmabhatt – Summer 2021 – Winter 2022.
- Lily Murphy – Fall 2020 – Spring 2021.
- Christian Graca – Winter 2020 – Fall 2022.
- Kayla Corcoran – Fall 2020 – Spring 2021.
- Aisha Owens – Winter 2020 – Spring 2021.
- Kristin Staub. Fall 2019 – Spring 2020.
- Blake Timmerman. Winter 2020 – Spring 2020.
- Medea Gough. Fall 2019- Spring 2020. Lab Manager.
- Elizabeth Sutherland. Winter 2019 – Spring 2019
- Natasha Wierzal. Summer 2016 – Spring 2018. (Lincoln Park Zoo)
- Kirby Karpan. Summer 2015 – Spring 2018. (National Marine Fisheries Service- Juneau, Alaska)
- Franklin Joaquin. Winter 2016 – Fall 2017. (Technician at Loyola University)
- Aerin Nilsen. Fall 2016 – Spring 2017.
- Melina Kanji. Fall 2015 – Spring 2017. (Ross Medical School)
- Thomas Borders. Summer 2015 – Spring 2017. Lab Manager. (Technician Northwestern University)
- Ashley Young. Winter 2016 – Winter 2017.
- Alex Jagla. Winter 2015 – Spring 2016. Lab Manager.
- Marissa Locke. Fall 2013 – Spring 2015. (Ph.D., Washington University School of Medicine)
- Katie Carlson. Winter 2014 – Spring 2015. Lab Manager. (Ohio University Heritage College of Osteopathic Medicine)
- Lisette Arellano. Winter 2013 – Fall 2014.
- Carla Benedetto. Summer 2013 – Spring 2014. (Planned Parenthood)
- Catherine Collins. Winter 2013 – Spring 2014. Lab Manager.
- Rachel Reynolds. Winter 2013 – Spring 2014. (M.P.H., DePaul University)
- Maxine Lox. Winter 2013 – Spring 2014. (Ph.D., Rosalind Franklin University of Medicine and Science)
- Webster Vital. Winter 2013 – Spring 2014. (M.P.H., DePaul University)
- Grecia Valadez – Spring – Fall 2013.
- Mario Luckett. Winter 2013 – Spring 2013. (M.P.H., DePaul University)
- Alex Confer. Summer 2011 – Spring 2013. Lab Manager. (Veterinary School, Western University of Health Sciences)
- Vinh Vu. Summer 2011 – Spring 2013. Lab Manager. (Ph.D., University of Illinois)

- Rupali Padhiar. Summer 2011 – Summer 2012. (Doctorate in Physical Therapy, Andrews University)
- Teresa Maglivia. 2012.
- Maddie Temple. 2012.
- Keshia Marcelle – Fall 2011.
- Sara Zufan – Fall 2011. (M.P.H., Columbia University)
- Ashley Brown. Spring 2010 – Spring 2011. (Pharmacy School, Midwestern University)
- Jane Christman. Fall 2010 – Spring 2011. (Veterinary School, Michigan State University)
- Rosanna Falco. Fall 2010 – Spring 2011. (M.S., Rush University)
- Joelle Mbatchou. Spring 2010 – Spring 2011. (Ph.D., University of Chicago)
- Kendal Walker. Summer 2010 – Spring 2011. Lab Manager. (Technician University of Michigan)
- Shawn Gideon. Summer 2010 – Winter 2011.
- Miguel Rojas. Fall 2009 – Summer 2010. Lab Manager. (M.S., Loyola University)
- Mary Beddaoui. Winter 2010 – Summer 2010.
- Amanda Peters. Winter 2010 – Spring 2010.

**Independent Study (undergraduates):**

- Baraa AbuKhudhayr – Spring 2013, Grecia Valadez – Spring 2013, Keshia Marcelle – Fall 2011, Sara Zufan – Fall 2011, Rosanna Falco - Fall 2010 and Spring 2011, Mary Beddaoui Spring 2010.

**Other Mentoring/Teaching:**

- Faculty mentor for the Rising Stem Scholars Program (RSSP) Summer Session I, 2020, 2021. College of Science and Health, DePaul University.

**GRANTS, AWARDS AND CONTRACTS:**

**External:**

- Co-PI: NOAA: National Marine Fisheries Service's Marine Fisheries Initiative (MARFIN) Grant Program proposal #18MF0025. Conservation Genomics and Caribbean Fisheries Management: Stock Structure and Connectivity of Four Parrotfish Species and the Role of MPAs as Recruitment Sources. 2018, DePaul: \$60,673; Total: \$505,411. Funded.
- Co-PI: National Science Foundation, Long Term Research in Environmental Biology. Rapid Evolution of a Threespine Stickleback Population. DEB0919184, 2009, \$49,726. Funded. (Prior to DePaul)
- Co-PI: Doctoral Dissertation Improvement Grant (DDIG). National Science Foundation. The pattern and process of evolutionary diversification: Lessons from an Alaskan threespine stickleback radiation. 2005. \$12,000. Funded.
- Sokal Award for Statistical Research. State University of New York at Stony Brook. 2004. \$500. Funded.
- PI: Lerner-Gray Fund for Marine Research Award. American Museum of Natural History. Phylogeny of the Genus *Cynoscion* (Teleostei: Sciaenidae). 2001. \$2,000. Funded.

**Internal:**

- PI: University Research Council Grant, DePaul University. Environmental DNA (eDNA) Assessment of Freshwater Fishes from the Guayas River Basin Threatened by Coastal Incursion. 2022. \$5,000.
- Co-PI: Collaborative University Research Council Grant with Thiru Ramaraj (CDM), DePaul University. Using Next Generation DNA Sequencing and Bioinformatics to gain insights into the evolution and adaptation of the Rainbow Characin genus *Rhoadsia*. 2022. \$5,000.
- PI: University Research Council Grant, DePaul University. Genomic Barcoding of Neotropical Fishes using Minlon Third-Generation Sequencing. 2020. \$3,500.

- PI: University Research Council Equipment Grant, DePaul University. Request for the purchase of a specialized computer for processing of micro-CT scanning data. 2019. \$3,500.
- PI: University Research Council Equipment Grant, DePaul University. Request for the purchase of a Nanopore MinION third generation sequencer. 2019. \$2,400.
- PI: University Research Council Grant, DePaul University. Ecological Stoichiometry of Neotropical Fishes along Elevation Gradients of the Andes Mountains. 2018. \$3,500.
- PI: Quality of Instruction Council Competitive Instructional Grant, DePaul University. Galapagos: Evolution and Society (Study Abroad Program Development). 2018. \$3500.
- PI: University Research Council Grant, DePaul University. DNA Barcoding and Phylogeography of the Freshwater Fishes of Western Ecuador. 2017. \$3,500.
- PI: University Research Council Equipment Grant, DePaul University. Request for the purchase of field equipment for sampling in Neotropical mountain streams. 2017. \$1,900.
- PI: University Research Council Grant, DePaul University. Phylogeography and evolution of the Neotropical fish genus *Rhoadsia* (Characidae: Rhoadsiinae) in northwestern South America. 2016. \$3,500.
- PI: University Research Council Research Equipment Grant, DePaul University. Request for the purchase of three incubators for URC project on gene expression in fish. 2016. \$3,500.
- PI: Quality of Instruction Council Summer Stipend Program Grant, DePaul University. New Course Development: SWK: Evolution and Health. 2016. \$3500.
- PI: University Research Council Grant, DePaul University. The impact of temperature on the development of the axial skeleton in the model species *Astyanax mexicanus*. 2015. \$3,500.
- PI: College of Science and Health Summer Research Grant, DePaul University. Temperature effects on vertebral number and body shape development in the tetra *Astyanax mexicanus* (Teleostei: Characidae). 2015. \$5,700.
- PI: University Research Council Grant, DePaul University. Evolutionary divergence of *Rhoadsia* spp. (Teleostei: Characidae) along an altitudinal gradient in western Ecuador. 2014. \$3,500.
- PI: University Research Council Grant, DePaul University. Ecomorphology and niche partitioning of a low diversity Neotropical fish community along an altitudinal gradient. 2012. \$3,500.
- PI: DePaul University, University Research Council Grant, DePaul University. Inference of Evolutionary Relationships among *Hoplias* spp. in Ecuador. 2011. \$3,500.
- PI: College of Science and Health Summer Research Grant, DePaul University. The Impacts of Dams on Ecological and Morphological Characteristics of an Apex Fish Predator, *Hoplias microlepis*, in the Guayas River System of Western Ecuador. 2011. \$5,700.
- PI: University Research Council Grant, DePaul University. Isolation of Microsatellite Loci from Freshwater Fishes of Western Ecuador. 2010. \$3,470.
- PI: University Research Council, DePaul University. The Osteological Basis of Body Shape Variation. 2009. \$3,500. Funded.
- PI: College of Liberal Arts and Sciences, DePaul University. The Osteological Basis of Body Shape Variation. 2009. \$5,700.

#### **Fellowships:**

- W. Burghardt Turner Postdoctoral Training Fellowship. State University of New York at Stony Brook. August, 2007 to June, 2009. \$35,000 annual.
- Howard Hughes Medical Institute Postdoctoral Teaching Fellowship. 2007. \$5,000.
- W. Burghardt Turner Fellowship Summer Research Award. State University of New York at Stony Brook. 2005, 2004, 2003. \$7,000 total.

- W. Burghardt Turner Fellowship. State University of New York at Stony Brook. 2002 to 2007. \$10,000 annual.
- Presidential Fellowship. Stony Brook University. 2000-2003. \$2,500 annual.
- Graduate Assistants in Areas of National Need (GAANN) Teaching Fellowship. U.S. Department of Education, Washington, D.C. 2000-2001. \$10,255.

**Graduate Student Funding (Awarded):**

- Graduate Research Fund Grant for Kaleigh Arnold. \$500. Spring 2022.
- Graduate Research Fund Grant for César Fuentes. \$500. Spring 2022.
- Graduate Research Fund Grant for Olivia Schweikert. \$700. Winter 2022.
- Graduate Research Fund Grant for César Fuentes. \$500. Winter 2021.
- Graduate Research Fund Grant for Jessica Vaclav. \$300. Spring 2018.
- Graduate Research Fund Grant for Sara Alharbi. \$300. Winter 2018.
- Graduate Research Fund Grant for Joe Forberg. \$300. Fall 2017.
- Graduate Research Fund Grant for Roberto Cucalon. \$300. Fall 2017.
- Graduate Research Fund Grant for Roberto Cucalon. \$300. Winter 2017.
- Sigma Xi Grants-in-Aid of Research Program for Grace Malato. \$500. 2015.
- Graduate Research Fund Grant for Grace Malato. \$300. 2015.
- Graduate Research Fund Grant for Winer Reyes. \$300. 2014.
- Graduate Research Fund Grant for Grace Malato. \$300. 2014.
- Graduate Research Fund Grant for Seth Contreras. \$300. 2013.

**Undergraduate Student Funding (Awarded):**

- College of Science and Health, Undergraduate Summer Research Program Grant for Hannah Willis. \$3,900. Summer 2022.
- Undergraduate Research Assistantship Grant for Shruti Brahmabhatt. Summer and Fall, 2021.
- College of Science and Health, Undergraduate Summer Research Program Grant for Christian Graca. \$3,150. Summer 2021.
- Undergraduate Research Assistantship Grant for Aisha Owens. Summer and Fall, 2020.
- Undergraduate Research Assistantship Grant for Natasha Wierzal. Winter and Spring, 2018.
- Undergraduate Research Assistantship Grant for Franklin Joaquin. Summer and Fall, 2017.
- Undergraduate Research Assistantship Grant for Kirby Karpan. Fall, 2016; Winter and Spring, 2017.
- Undergraduate Research Assistantship Grant for Marissa Locke. Winter and Spring, 2015.
- College of Science and Health, Undergraduate Summer Research Program Grant for Catherine Collins. \$1,750. Summer 2013.
- Undergraduate Research Assistantship Grant for Rachel Reynold Summer and Fall, 2013.
- Undergraduate Research Assistantship Grant for Alex Confer Winter 2013 and Spring, 2013.
- Undergraduate Research Assistantship Grant for Vinh Vu Winter 2012 and Spring, 2012.
- Undergraduate Research Assistantship Grants for Joelle Mbatchou Fall/10-Winter/11.
- Undergraduate Research Assistantship Grant for Amanda Peters Winter and Spring, 2010.

**PUBLICATIONS:**

**Refereed Journal Articles (U=DePaul undergrad student coauthor, G = DePaul grad student coauthor):**

- Mena-Valenzuela, P., J. Valdiviezo-Rivera, J. Mena-Olmedo, and W.E. Aguirre. 2022. The first observation of copulation in Andean Catfish *Astroblepus ubidiai* (Siluriformes, Astroblepidae), in Lago San Pablo, Imbabura, Ecuador. Journal of Fish Biology 62:388-405.  
<https://doi.org/10.1093/icb/icac071>

- Aguirre, W.E., K. Reid, J. Rivera, D.C. Heins, K.R. Veeramah, and M.A. Bell. 2022. Freshwater colonization, adaptation, and genomic divergence in threespine stickleback fish: ancient and current events. *Integrative and Comparative Biology*. icac071. doi.org/10.1093/icb/icac071.
- Tonella et al. 2022. NEOTROPICAL FRESHWATER FISHES: A dataset of occurrence and abundance of freshwater fishes in the Neotropics. *Ecology (Data Papers)*: <https://doi.org/10.1002/ecy.3713>.
- Santangelo, J.S. et al. 2022. Global urban environmental change drives adaptation in white clover. *Science* 375:1275-1281. <https://doi.org/10.1126/science.abk0989>
- Cucalón, R.V.<sup>6</sup>, P. Jiménez-Prado, R. Navarrete-Amaya, J. Valdiviezo-Rivera, A. Torres-Noboa, N. Wierzal<sup>U</sup>, K. Karpan<sup>U</sup>, T. Borders<sup>U</sup>, P. Calle, N. Lujan, and W.E. Aguirre. 2022. Phylogeography of the Chocó endemic Rainbow Characin (Teleostei: *Rhoadsia*). *Ichthyology and Herpetology* 110:138-155. <https://doi.org/10.1643/i2020092>
- Aguirre, W.E., M.G. Alvarez Mieles, F. Anaguano-Yancha, R. Burgos Morán, R.V. Cucalón<sup>6</sup>, D. Escobar Camacho, I. Jácome Negrete, P. Jiménez Prado, E. Laaz, K. Miranda, R. Navarrete Amaya, F. Nugra Salazar, W. Revelo, J.F. Rivadeneira, J. Valdiviezo Rivera, E. Zárate Hugo. 2021. Conservation threats and future prospects for the freshwater fishes of Ecuador: a hotspot of Neotropical fish diversity. *Journal of Fish Biology*. <https://doi.org/10.1111/jfb.14844>.
- Roberts Kingman, G.A., D.N. Vyas, F.C. Jones, H.I. Chen, K. Reid, M. Milhaven, T. Bertino, D.C. Heins, F.A. von Hippel, P.J. Park, W.E. Aguirre, S.D. Brady, M. Kirch, F. Di Palma, M.A. Bell, D.M. Kingsley, K.R. Veeramah. 2021. Predicting future from past: The genomic basis of recurrent and rapid stickleback evolution. *Science Advances* 7(25):eabg5285. DOI: 10.1126/sciadv.abg5285.
- Jiménez-Prado, P., and W.E. Aguirre. 2021. Parallel body shape variation in fishes from two coastal rivers of the Ecuadorian Chocó. (article in Spanish) *Revista de Biología Tropical* 69(1):45-59. DOI 10.15517/RBT.V69I1.41814.
- Alava, J.J., Calle, P., Tirape, A., Biedenbach, G., Alvarado Cadena, O., Maruya, K., Lao, W., Aguirre, W., Jimenez, P.J., Dominguez, G.A., Bossart, G.D., Fair, P.A. 2020. Persistent organic pollutants and mercury in genetically identified inner estuary bottlenose dolphin (*Tursiops truncatus*) residents of the Guayaquil Gulf, Ecuador: Ecotoxicological science in support of pollutant management and cetacean conservation. *Frontiers in Marine Science* 7:122. <https://doi.org/10.3389/fmars.2020.00122>
- Reyes, W.D.<sup>6</sup>, and W.E. Aguirre. 2019. Effects of temperature variation on vertebral number and body shape in *Astyanax mexicanus* (Teleostei: Characidae). *PLoS One* 14 (7): e0219677. <https://doi.org/10.1371/journal.pone.0219677>
- Aguirre, W.E., A. Young<sup>U</sup>, R. Navarrete Amaya, J. Valdiviezo Rivera, P. Jiménez Prado, R. Cucalón Tamayo<sup>6</sup>, T. Borders<sup>U</sup>, F. Nugra Salazar, P. Calle Delgado, and V. Shervette. 2019. Vertebral number covaries with body form and elevation along the Western Slopes of the Ecuadorian Andes in the Neotropical fish genus *Rhoadsia* (Teleostei: Characidae). *Biological Journal of the Linnean Society* 126:706–720. <https://doi.org/10.1371/journal.pone.0219677>
- Malato, G.<sup>6</sup>, V.R. Shervette, R. Navarrete Amaya, J. Valdiviezo, F. Nugra, P. Calle, K. Karpan<sup>U</sup>, and W.E. Aguirre. 2017. Parallel body shape divergence in the Neotropical fish genus *Rhoadsia* (Teleostei: Characidae) along elevational gradients of the Western Slopes of the Ecuadorian Andes. *PLoS One* 12(6):e0179432. <https://doi.org/10.1371/journal.pone.0179432>.
- Aguirre, W.E., R. Navarrete Amaya, G.C. Sanchez-Garces, F. Nugra Salazar, and J. Valdiviezo Rivera. 2017. Range expansion of the genus *Sicydium* (Teleostei: Gobiidae) to coastal mountain streams of southwestern Ecuador and possibly northwestern Peru. *Checklist* 13(1):2049, doi: <https://doi.org/10.15560/13.1.2049>.

- Aguirre, W.E., S.E. Contreras<sup>G</sup>, K.M. Carlson<sup>U</sup>, A.J. Jagla<sup>U</sup>, and L. Arellano<sup>U</sup>. 2016. Evolutionary diversification of body form and the axial skeleton in the Gasterosteidei and their closest relatives. *Evolutionary Ecology Research* 17:373-393.
- Bell, M.A., D.C. Heins, M.A. Wund, F.A. von Hippel, R. Massengill, K. Dunker, G.A. Bristow, W.E. Aguirre. 2016. Reintroduction of threespine stickleback into Cheney and Scout Lakes, Alaska. *Evolutionary Ecology Research* 17:157-178.
- Aguirre, W.E., R. Navarrete, G. Malato<sup>G</sup>, P. Calle, M.K. Loh<sup>U</sup>, W.F. Vital<sup>U</sup>, G. Valadez<sup>U</sup>, V. Vu<sup>U</sup>, V.R. Shervette, and J.C. Granda. 2016. Body Shape variation and population genetic structure of *Rhoadsia altipinna* (Characidae: Rhoadsiinae) in Southwestern Ecuador. *Copeia* 104: 554-569.
- Aguirre, W.E., K. Walker<sup>U</sup>, S. Gideon<sup>U</sup>. 2014. Tinkering with the axial skeleton: vertebral number variation in ecologically divergent threespine stickleback populations. *Biological Journal of the Linnean Society* 113:204-219.
- Aguirre, W.E., R. Navarrete, P. Calle, and G.C. Sanchez-Garces. 2014. First Record of *Iotabrycon praecox* Roberts 1973 (Characidae) in the Santa Rosa River, southwestern Ecuador. *Checklist* 10:382-385.
- Loh, M. <sup>U</sup>, W. Vital<sup>U</sup>, V. Vu<sup>U</sup>, R. Navarrete, P. Calle, V.R. Shervette, A. Torres, and W.E. Aguirre. 2014. Isolation of sixteen microsatellite loci for *Rhoadsia altipinna* (Characiformes: Characidae) from an impacted river basin in western Ecuador. *Conservation Genetics Resources* 6:229-231.
- Bell, M.A., and W.E. Aguirre. 2013. Contemporary evolution and allelic recycling in threespine stickleback. *Evolutionary Ecology Research* 15:377-411.
- Aguirre, W.E., V.R. Shervette, R. Navarrete, P. Calle, and S. Agorastos. 2013. Morphological and genetic divergence of *Hoplias microlepis* (Characiformes, Erythrinidae) in western Ecuador. *Copeia* 2013:312-323.
- Drevecky, C.J. <sup>G</sup>, R. Falco<sup>U</sup>, and W.E. Aguirre. 2013. Genetic divergence of a sympatric lake resident-anadromous three-spined stickleback *Gasterosteus aculeatus* species pair. *Journal of Fish Biology* 83:111-132.
- Park, P.J., W.E. Aguirre, D.A. Spikes, J.M. Miyazaki. 2013. Landmark-Based Geometric Morphometrics: What Fish Shapes Can Tell Us About Fish Evolution. *Tested Studies for Laboratory Teaching, Proceedings of the Association for Biology Laboratory Education* 34:361-371.
- Vu, V. <sup>U</sup>, J. Christman<sup>U</sup>, P. Calle, and W.E. Aguirre. 2013. Isolation of microsatellite loci for the predatory fish *Hoplias microlepis* (Characiformes: Erythrinidae) from a highly impacted river system in western Ecuador. *Conservation Genetics Resources* 5:437-439.
- Confer, A. <sup>U</sup>, V. Vu<sup>U</sup>, C.J. Drevecky<sup>G</sup>, and W.E. Aguirre. 2012. Occurrence of *Schistocephalus solidus* in anadromous threespine stickleback. *Journal of Parasitology* 98:676-678.
- Aguirre, W.E., and M.A. Bell. 2012. Twenty years of body shape evolution in a threespine stickleback population adapting to a lake environment. *Biological Journal of the Linnean Society* 105:817-831.
- Aguirre, W.E., and O. Akinpelu<sup>U</sup>. 2010. Sexual dimorphism of head morphology in threespine stickleback. *Journal of Fish Biology* 77:802-821.
- Bell, M.A., A.K. Gangavalli<sup>U</sup>, A. Bewick<sup>U</sup>, and W.E. Aguirre. 2010. Frequency of Ectodysplasin alleles and evidence for limited introgression between sympatric anadromous and lake resident threespine stickleback. *Environmental Biology of Fishes* 89:189-198.
- Aguirre, W.E. 2009. Microgeographical diversification of threespine stickleback: body shape-habitat correlations in a small, ecologically diverse Alaskan drainage. *Biological Journal of the Linnean Society* 98:139-151.
- Vergara-Chen, C., W.E. Aguirre, M. Gonzalez-Wanguemert, E. Bermingham. 2009. A mitochondrial DNA-based phylogeny of weakfish species of the *Cynoscion*-group (Pisces: Sciaenidae). *Molecular Phylogenetics and Evolution* 53:602-607.



- Arif, S., Aguirre, W.E., and M.A. Bell. 2009. Evolutionary diversification of operculum shape in Cook Inlet threespine stickleback. *Biological Journal of the Linnean Society* 97:832-844.
- Aguirre, W.E., K.E. Ellis<sup>U</sup>, M. Kusenda<sup>U</sup>, and M.A. Bell. 2008. Phenotypic variation and sexual dimorphism in anadromous threespine stickleback: implications for postglacial adaptive radiation. *Biological Journal of the Linnean Society* 95:465-478.
- Kimmel, C.B., W.E. Aguirre, B. Ullmann, M. Currey, W.A. Cresko. 2008. Allometric change accompanies opercular shape evolution in Alaskan threespine sticklebacks. *Behaviour* 145:669-691.
- Shervette, V.R., W.E. Aguirre, R. Cevallos<sup>U</sup>, M. Gonzalez, F. Pozo<sup>U</sup>, E. Blacio, and F. Gelwick. 2007. Fish communities of a disturbed mangrove wetland and an adjacent tidal river in Palmar, Ecuador. *Estuarine, Coastal and Shelf Science* 72:115-128.
- Felix, F., B. Haase, and W.E. Aguirre. 2007. A case of spondylitis in a humpback whale (*Megaptera novaengliae*) in the southeast Pacific. *Diseases of Aquatic Organisms* 75:259-264.
- Aguirre, W.E., V.R. Shervette, R. Cevallos<sup>U</sup>, M. Gonzalez, and F. Pozo<sup>U</sup>. 2006. Occurrence of *Sphoeroides rosenblatti* Bussing, 1996 (Teleostei: Tetraodontidae) along the coast of Guayas Province, Ecuador, and a comparison with sympatric *Sphoeroides annulatus* (Jenyns, 1842). *Revista de Biología Marina y Oceanografía* 41:231-238.
- Aguirre, W.E., and V.R. Shervette. 2005. Morphological diversity of the *Cynoscion* group (Perciformes: Sciaenidae) in the Gulf of Guayaquil, Ecuador (Perciformes: Sciaenidae), a comparative approach. *Environmental Biology of Fishes* 73:403-413.
- Alava, J.J., and W.E. Aguirre. 2005. Scanning electron microscopy of *Neoechinorhynchus* sp. (Acanthocephala: Neoechinorhynchidae), a possible new species of intestinal parasite of the tallfin croaker *Micropogonias alpinus* (Gunther, 1864). *Parasitologia Latinoamericana* 60:48-53.
- Alava, J.J., P. Jiménez, M. Peñafiel, W. Aguirre, and P. Amador. 2005. Sea turtle strandings and mortality in Ecuador: 1994-1999. *Marine Turtle Newsletter* 108:4-7.
- Aguirre, W.E., P. Doherty<sup>U</sup>, and M.A. Bell. 2004. Genetics of lateral plate and gill raker phenotypes in a rapidly evolving population of threespine stickleback. *Behaviour* 141:1465-1483.
- Bell, M.A., W.E. Aguirre, and N. Buck. 2004. Twelve years of contemporary armor evolution in threespine stickleback population. *Evolution* 58:814-824.
- Aguirre, W.E. 2003. Allometric growth of the sulcus in *Cynoscion* (Sciaenidae). *Journal of Fish Biology* 63:1341-1346.
- Chiluiza, D., W. Aguirre, F. Felix, y B. Haase. 1998. Varamientos de mamíferos marinos en la costa continental Ecuatoriana período 1987-1995. *Acta Oceanográfica del Pacífico* 9(1):209-217.

#### **Books:**

- Aguirre, W., and P. Jiménez-Prado. 2018. Guía práctica de morfometría geométrica. Aplicaciones en la ictiología. Pontificia Universidad Católica del Ecuador Sede Esmeraldas (PUCESE). Esmeraldas, Ecuador. 104 pp.
- Jiménez Prado, P., W. Aguirre, E. Laaz Moncayo, R. Navarrete Amaya, F. Nugra Salazar, E. Rebolledo Monsalve, E. Zárate Hugo, A. Torres Noboa, J. Valdiviezo Rivera. 2015. Guía de Peces para Aguas Continentales en la Vertiente Occidental del Ecuador. PUCSE, Esmeraldas, Ecuador, 416 pp.

#### **Books Chapters:**

- Navarrete Amaya, R., V.R. Shervette, D. Vélez, W.E. Aguirre. 2021. *Patrones Biogeográficos y Taxonómicos de los Peces de la Vertiente Occidental del Ecuador*, pp. 22-55. In Jiménez-Prado, P y J. Valdiviezo- Rivera (ed.). 2021. *Biodiversidad de peces en el Ecuador*. Serie Especial de Ictiología Ecuatoriana I. Red Ecuatoriana de ictiología, Pontificia Universidad Católica del Ecuador Sede Esmeraldas, Universidad Tecnológica Indoamérica. 166 pp.

### **Published Book Reviews:**

- Aguirre, W.E. 2021. Review of Freshwater Biodiversity. Status, Threats and Conservation (by David Dudgeon). Quarterly Review of Biology 96:228-229.
- Aguirre, W.E. 2020. Review of Tropical Pinnipeds. Bio-ecology, Threats and Conservation. (edited by Juan José Alava). Aquatic Mammals 46(1): 114-115. <https://doi.org/10.1578/AM.46.1.2020.114>.
- Aguirre, W.E. 2008. Review of Red Snapper Ecology and Fisheries in the U.S. Gulf of Mexico (edited by W.F. Patterson III, J.H. Cowan Jr., G.R. Fitzhugh, and D.L. Nieland). Quarterly Review of Biology 83:416.
- Aguirre, W.E. 2008. Review of Genetic Diversity, A Lab Manual (edited by M.P. Weiner, S.B. Gabriel, and J.C. Stephens). Quarterly Review of Biology 83:313-314.
- Aguirre, W.E. 2006. Review of Frozen Earth: the once and future story of ice ages (by Doug Macdougall). Quarterly Review of Biology 81:193-194.
- Aguirre, W.E. 2003. Review of Ecology of the marine fishes of Cuba (edited by R. Claro, K.C. Lindeman, and L.R. Parenti). Quarterly Review of Biology 78(1):110.

### **Non-Peer-Reviewed Science Articles:**

- Aguirre, W., F. Anaguano-Yancha, R. Burgos-Morán, C. Carrillo-Moreno, L. Guarderas, I. Jácome-Negrete, P. Jiménez-Prado, E. Laaz, F. Nugra, W. Revelo, J. Rivadeneira, A. Torres, V. Utreras, and J. Valdiviezo-Rivera. 2019. *Lista roja de los peces dulceacuícolas de Ecuador*. [[Red list of the freshwater fishes of Ecuador]]. Ministerio del Ambiente, DePaul University, Wildlife Conservation Society-Ecuador (WCS), Universidad Estatal Amazónica, Universidad Indoamérica, Instituto Quichua de Biotecnología Sacha Supai, Universidad Central del Ecuador, Pontificia Universidad Católica del Ecuador Sede en Esmeraldas, Instituto Nacional de Pesca, Universidad del Azuay, Instituto Nacional de Pesca, Universidad Central del Ecuador, Universidad de Guayaquil e Instituto Nacional de Biodiversidad. Quito, Ecuador.
- Aguirre, W.E. 2015. Tinkering with the Axial Skeleton: Insights from an Evolutionary “Supermodel”. Invited piece for the Eco-Evolutionary Dynamics Blog. Published online August 30, 2015. Available at: <http://ecoevoevoeco.blogspot.com/2015/08/tinkering-with-axial-skeleton-insights.html>

### **SCHOLARLY PAPERS PRESENTED:**

- Aguirre, W.E., Veeramah, K.R., Reid, K., Rivera, J., Heins, D.C., Bell, M.A. 2022. Freshwater, colonization, adaptation, and genomic divergence in Threespine Stickleback fish: ancient and current events. Society of Integrative and Comparative Biologists Annial Meeting, Phoenix, AZ, January 3-7, 2022. Oral presentation.
- Cucalon, R., J. Valdiviezo-Rivera, P. Jiménez-Prado, R. Navarrete-Amaya, V.R. Shervette, A. Torres-Noboa, N. Wierzal, T. Borders, N. Lujan, and W.E. Aguirre (presenter). Phylogeography of the Chocó Endemic Rainbow Characin (Teleostei: *Rhoadsia*). Joint Meeting of Ichthyologists & Herpetologists, Phoenix, AZ, July 21-25, 2021. Oral presentation.
- Reyes, W.D., Owens, A., and Aguirre, W.E. (presenter). Effects of temperature on vertebral number, body shape, and burst swimming in surface-dwelling *Astyanax mexicanus*. Virtual Evolution 2021 Meeting. June 21-27, 2021. Oral presentation.
- Aguirre, W.E. Vertebral number, body form and elevation: patterns of variation in populations of the Neotropical fish *Rhoadsia* (Characidae) inhabiting mountain streams of the Ecuadorian Andes. Evolution 2019: Joint annual meeting of the Society for the Study of Evolution, the Society of Systematic Biologists, and the American Society of Naturalists. June 21-25, 2019. Providence Convention Center, Providence, RI. Oral presentation.

- Aguirre, W.E., G. Malato, R. Navarrete, J. Valdiviezo, F. Nugra, V. Shervette, P. Calle. Elevational Gradients and the Evolution of Biological Diversity: The Genus *Rhoadsia* as a Case Study from the Western Slope of the Andes in Ecuador. American Society of Ichthyologists and Herpetologists Meeting. July 6-10, 2016. New Orleans, LA. Oral presentation.
- Aguirre, W.E., S. Contreras, K. Carlson, A. Jagla, L. Arellano. Evolutionary Diversification of Body Form and the Axial Skeleton in the Gasterosteidae - The Sticklebacks and their Closest Relatives. Joint Meeting of Ichthyologists and Herpetologists. July 6-10, 2016. New Orleans, LA. Poster presentation.
- Aguirre, W., K. Carlson, S. Contreras, and L. Arellano. Evolutionary diversification of body form and the axial skeleton in the Gasterosteidae and their closest relatives. Eighth International Conference on Stickleback Behaviour and Evolution. July 26-31, 2015. Stony Brook University, Stony Brook, NY. Oral presentation.
- Aguirre, W.E., K. Carlson, R. Padhiar, R. Reynolds, K. Walker, S. Gideon, and M.A. Bell. Microevolutionary Diversification of the Axial Skeleton in the Threespine Stickleback. Eighth International Conference on Stickleback Behaviour and Evolution. July 26-31, 2015. Stony Brook University, Stony Brook, NY. Poster presentation.
- Aguirre, W.E., C. Montero, J.C. Granda, L. Arellano, R. Navarrete, and P. Calle. Morphological responses to anthropogenic habitat transformation: Body shape change in two predatory fishes in artificial impoundments of Ecuador. Joint annual meeting of the Society for the Study of Evolution, the Society of Systematic Biologists, and the American Society of Naturalists. June 26-30, 2015. Casa Grande Hotel Resort, Guarujá, Brazil. Oral presentation.
- Aguirre, W.E., R. Navarrete, G. Malato, P. Calle, M.K. Loh, W.F. Vital, G. Valadez, V. Vu, V.R. Shervette, and J.C. Granda. Morphological Variation and Population Genetic Structure of *Rhoadsia altipinna* (Characidae: Rhoadsiinae) in Southwestern Ecuador. Joint annual meeting of the Society for the Study of Evolution, the Society of Systematic Biologists, and the American Society of Naturalists. June 26-30, 2015. Casa Grande Hotel Resort, Guarujá, Brazil. Poster presentation.
- Aguirre, W.E. Morfometría Geométrica Para Ictiólogos: Introducción y Aplicación de la Metodología Para Evaluar la Adaptación de Peces a Embalses Artificiales en el Ecuador. 1º Encuentro Nacional de Ictiología. September 24-26, 2014. Pontífica Universidad Católica del Ecuador Sede Esmeraldas, Esmeraldas, Ecuador. Oral presentation.
- Aguirre, W.E., K. Walker, S. Gideon, and K. Carlson. Tinkering with the axial skeleton: vertebral number variation in ecologically divergent threespine stickleback populations. Joint annual meeting of the Society for the Study of Evolution, the Society of Systematic Biologists, and the American society of Naturalists. June 20-24, 2014. Raleigh Convention Center, Raleigh, North Carolina, USA. Oral presentation.
- Drevecky, C.J., R. Falco, and W.E. Aguirre. Genetic divergence of a sympatric lake resident- anadromous three-spined stickleback *Gasterosteus aculeatus* species pair. Joint Meeting of the American Society of Ichthyologists and Herpetologists held in Albuquerque July 10-15, 2013. Poster presentation.
- Aguirre, W.E., K. Walker, and S. Gideon. Evolution of the axial skeleton in ecologically divergent threespine stickleback. Seventh International Conference on Stickleback Behavior and Evolution. July 29 - August 3, 2012. Islandwood on Bainbridge Island, Seattle, Washington, USA. Oral presentation.

- Aguirre, W.E., M. Beddaoui, A. Brown, and R. Padhiar. Microgeographical distribution of divergent mtDNA haplotypes in threespine stickleback inhabiting a small, ecologically diverse Alaskan drainage. Seventh International Conference on Stickleback Behavior and Evolution. July 29 - August 3, 2012. Islandwood on Bainbridge Island, Seattle, Washington, USA. Poster Presentation.
- Aguirre, W.E. The osteological basis of body shape evolution in threespine stickleback fish. American Society of Ichthyologists and Herpetologists Meeting, 6-11 July 2011, Minneapolis, Minnesota, USA. Oral presentation.
- Aguirre, W.E. Morphological and genetic divergence of *Hoplias microlepis* (Characiformes, Erythrinidae) in rivers and artificial impoundments of western Ecuador. American Society of Ichthyologists and Herpetologists Meeting, 6-11 July 2011, Minneapolis, Minnesota, USA. Poster presentation.
- Aguirre, W.E., and M.A. Bell. Rapid adaptation of sea-run threespine stickleback fish after introduction to a lake. Evolutionary change in human-altered environments, an international summit, 8-10 February 2007, UCLA, Los Angeles, California, USA. Poster presentation.
- Aguirre, W.E. The geography of adaptive radiation: gene flow and natural selection acting on threespine stickleback in an Alaskan lake/stream system. 1. Society for the Study of Evolution Annual Meeting, 23-27 June 2006, Stony Brook, NY, USA. 2. American Society of Ichthyologists and Herpetologists Meeting, 12-17 July 2006, New Orleans, Louisiana, USA. Oral presentation.
- Aguirre, W.E. The evolutionary trajectory of a recently established threespine stickleback population. 1. Society for the Study of Evolution Meeting, 10-14 June, 2005, Fairbanks, Alaska, USA. 2. American Society of Ichthyologists and Herpetologists Meeting, 6-11 July, 2005, Tampa, FL, USA. Oral presentation.
- Aguirre, W.E. Body shape evolution of threespine stickleback in Loberg Lake, Alaska. 1. American Society of Ichthyologists and Herpetologists Meeting, 26 June - 1 July, 2003, Manaus, Brazil. 2. Northeast Ecology and Evolution Meeting, 11 - 13 April, 2003, Rutgers University, New Brunswick, NJ, USA. Poster presentation.
- Aguirre, W.E. Notes on otolith morphology and ontogeny of *Cynoscion* spp. (Teleostei: Sciaenidae). American Society of Ichthyologists and Herpetologists Meeting, 5 - 10 July, 2001, Penn State University, PA, USA. Poster presentation.

#### **Invited Seminars/Workshops:**

- Aguirre W.E. La Evolución y Filogeografía de los Peces Continentales de la Vertiente Occidental del Ecuador: Avances y Prospectos. Webinar Acuicultura contemporánea. Facultad de Ciencias Naturales, Universidad de Guayaquil. Given March 9, 2023.
- Aguirre W.E. Freshwater colonization, adaptation, and genomic divergence in threespine stickleback fish: ancient and current events. Invited seminar organized by the Associated Colleges of the Chicago Area (ACCA) given February 14, 2023.
- Aguirre, W.E. El Uso de Marcadores Genéticos en la Ictiología: Pasado, Presente y Futuro. Instituto Público de Investigación de Acuicultura y Pesca. Invited seminar given September 30, 2022. Guayaquil, Ecuador.
- Aguirre, W.E. *Evolución y filogeografía del género Rhoadsia (Teleostei: Characidae) en la vertiente occidental del Ecuador. Curso Online: Semana de los vertebrados acuáticos.* Organized by the Instituto Nacional de Biodiversidad (INABIO), Ecuador. July 30, 2020. Thirty minute online presentation with Q&A session. Approximately 280 people attended.
- Aguirre, W.E. Studying evolution in the age of extinction. Lessons from the freshwater fishes of western Ecuador. Invited seminar held March 2, 2020 at Illinois Institute of Technology, Chicago, IL.

- Aguirre, W.E. Introducción a la Morfometría Geométrica: Teoría y Aplicaciones. Twenty-four hour Workshop held December 5-8, 2019, Facultad de Ciencias Naturales, Universidad de Guayaquil, Guayaquil, Ecuador.
- Aguirre, W.E. La Morfometría Geométrica: Aplicaciones en la ictiología. Invited seminar held July 16, 2019 at Escuela Superior Politécnica del Litoral, Guayaquil, Ecuador.
- Aguirre, W.E. Studying evolution in the age of extinction: Lessons from the freshwater fishes of western Ecuador. Invited seminar held October 17, 2018 at Loyola University, Chicago, IL.
- Aguirre, W.E. From Alaska to Ecuador: Studying evolution in the age of extinction. Seminar for The Center for Inclusive Education Speaker Series held June 27, 2018 at Stony Brook University, Stony Brook, NY.
- Aguirre, W.E. Morfometría Geométrica Para Biólogos: Aplicaciones en la Ictiología. Twenty Hour Workshop held July 12-14, 2017, Pontificia Universidad Católica del Ecuador Sede Esmeraldas, Esmeraldas, Ecuador.
- Aguirre, W.E. Tinkering with the axial skeleton: Microevolutionary divergence of body shape and vertebral number in fishes. EvMorph Invited Seminar, October 13, 2016, University of Chicago.
- Aguirre, W.E. Evolutionary Diversification in Temperate and Tropical Ecosystems: Lessons from Freshwater Fishes. Associated Colleges of the Chicago Area, Biology Division Seminar in Molecular Ecology, November 3, 2015, Benedictine University, Lisle, IL.
- Aguirre, W.E. Taller Práctico: Métodos para Cuantificar la Variación Morfológica de Peces. Eight Hour Workshop held during 1º Encuentro Nacional de Ictiología, September 24-26, 2014, Pontificia Universidad Católica del Ecuador Sede Esmeraldas, Esmeraldas, Ecuador.
- Aguirre, W.E. Tinkering with Form and Function: Insights from the Threespine Stickleback and Neotropical Fishes. Invited seminar for the Department of Ecology and Evolution at Stony Brook University, September 3, 2014.
- Aguirre, W.E. *Evaluación y conservación de recursos genéticos*. Workshop held at Escuela Politécnica del Litoral in Guayaquil, Ecuador, August 14-17, 2013.
- Aguirre, W.E. Darwin would be proud: Insights into evolution from the threespine stickleback. DePaul University Inaugural Darwin Day Seminar, February 13, 2013.
- Aguirre, W.E. Postgrados en EEUU: Experiencias de un Ictiólogo. Universidad Agraria del Ecuador, Guayaquil, Ecuador, September 17, 2012. Invited seminar for a university in Ecuador on graduate studies in the U.S.
- Aguirre, W.E. The pattern and process of evolutionary diversification: lessons from a threespine stickleback adaptive radiation. University of South Carolina, Charleston, SC, October 16, 2009.
- Aguirre, W.E. Genética de poblaciones y recursos genéticos: biodiversidad y conservación de recursos genéticos. Workshop at Escuela Politécnica del Litoral, Guayaquil, Ecuador, June 19-20, 2009.
- Aguirre, W.E. The pattern and process of evolutionary diversification: lessons from a threespine stickleback adaptive radiation. DePaul University, Chicago, IL, February 18, 2009.
- Aguirre, W.E. A primer to geometric morphometrics for stickleback biologists. Seminar given to Susan Foster and John Baker's lab group, Clark University, Worcester, MA, October 13, 2006.
- Aguirre, W.E. Geometric morphometrics and stickleback biology: an overview and applications. Fifth International Conference on Stickleback Behavior and Evolution, July 30 - August 04, 2006, Anchorage, Alaska, USA.
- Aguirre, W.E. Hybridization as a source of (adaptive?) variation in threespine stickleback fish. Seminar given to Andrew Hendry's Lab Group, Redpath Museum, McGill University, Montreal, Canada, April 21, 2006.

- Aguirre, W.E. Filogenia parcial del genero *Cynoscion* (Perciformes: Sciaenidae) a base de secuencias de ADN mitocondrial. 1. April 28, 2003. Universidad Experimental Francisco de Miranda, Punto Fijo, Estado Falcón, Venezuela. 2. November 6, 2003. Universidad Estatal Península de Santa Elena, Santa Elena, Guayas Province, Ecuador.

**SERVICE:**

**University:**

- Comprehensive Internationalization Committee (September 2021 – Present).
- Liberal Studies Council Alternate Member for CSH (Jan 2021 – Present).
- Internal Funding Programs Workshop Presenter – September 23, 2022.
- IACUC Committee Chair (September 2017-August 2020), Vice-Chair (Apr 2013 - Aug 2017), and Member (Sep 2010 – Mar 2013).
- Member Faculty Learning Communities – Foundational STEM Courses (Winter-Spring 2021).
- Member of Steering Committee for the Center for Latino Research (2010-16).
- Member of the Scientific Inquiry Domain Committee (September, 2014 – June 2015).

**College:**

- International Committee (Since July 1, 2020).
- Personnel Committee for Dr. Sarah Connolly's promotion case (Department of Health Sciences)
- CSH DEI Website Planning Committee (2022).
- Urban Ecologist Search Committee for Department of Environmental Sciences (Fall 2021-Spring 2022).
- Graduate Research Excellence in Academics & Training Committee (Fall 2019-Spring 2022).
- Graduate Research Fund Committee (Fall 2019- Spring 2022).
- Intro Sequences Working Group (2021)
- CSH Advancement Campaign Visioning Committee (Spring 2021).
- Member of the College of Science and Health 10 Year Anniversary Celebration Steering Committee (2020-21).
- Reviewer for Dean's Undergraduate Fellowship – Field Museum Botanical position (Since Winter 2016)
- Research Faculty and Development Committee (2018).
- Editor for DePaul Discoveries Undergraduate Research Journal (2019).
- Reviewer for DePaul Discoveries Undergraduate Research Journal (2014, 2016).
- Member of the Statistics Steering Committee (2013-14).
- Member of Curriculum Committee (2011-12).

**Department:**

- Search committee for Developmental Biologist (tenure-track) 2022-23.
- Chair of Internet/Web Committee (since Fall 2010).
- Personnel Subcommittee for promotions (since Fall 2019)
- Personnel Committee (since Fall 2016)
- Member of the Seminar Committee (2014-15; Fall 2022 – Present).
- Member of the Biology Diversity, Equity and Inclusion Committee (2021, Fall 2022-Present)
- Director of Graduate Studies and Chair of the Graduate Committee (Fall 2019 - Summer 2022).
- Member of the Graduate Committee (2016-17, 2011-12).

**Other:**

- Judge for the best student poster at Evolution 2019 for the American Society of Naturalists. Providence, RI. June 2019.

- Member of the External Advisory Board for the AGEP-T FRAME Program at Stony Brook University. 2014-2016.
- Member of the Selection Panels for the Best Paper in Ichthyology Award for Copeia, the journal of the American Society of Ichthyologists and Herpetologists, 2015, 2016, 2019.
- Member of the Selection Panel for Student Travel Awards for the Eighth International Conference on Stickleback Behavior and Evolution. 2015.
- Judge for Stoye award for best student presentation in general ichthyology, American Society of Ichthyologists and Herpetologists Annual Meeting, July 10-15, 2013, Albuquerque, New Mexico.
- Judge for Storer Award for best student poster presentation in ichthyology, American Society of Ichthyologists and Herpetologists Annual Meeting, 2011, 2016.
- Judge for Chicago Area Undergraduate Research Symposium. 2012, 2011.
- Invited Panel member for "Negotiating the First Year" presentation during the DePaul University new faculty orientation held on August 31st 2010.
- Invited Panel member for "Negotiating the First Year" presentation during the College of Science and Health's new faculty seminar held on November 11, 2011.
- Manned the Biological Sciences Table for DePaul Spring Visit Day. April, 2015.
- Participated in DeSACNAS Parent's Day Workshop March 2014 and April 2015.

#### **Community:**

- Invited for Career Day Scientist/Professor to Chicago International Charter School West Belden. Spoke to 3<sup>rd</sup>-8<sup>th</sup> grade classes about being a scientist/professor. April 13, 2016.
- Invited Career Day Presentation: How to be a Biology Professor, Chicago International Charter School West Belden. October 28, 2013.
- Invited presentation: El Origen y la Evolución de la Biodiversidad: Perspectivas de un Ictiólogo Ecuatoriano. *Programa "Jugando con la Ciencia"*, Evanston Public Library. March 2, 2013.

#### **PROFESSIONAL ACTIVITIES:**

##### **Ad hoc Reviewer for Scholarly Journals:**

- Behaviour, Biological Conservation, Biological Journal of the Linnean Society, Biology Letters, Caldasia, Canadian Journal of Zoology, Checklist, Copeia, Diseases of Aquatic Organisms, Ecology and Evolution, Ecology Letters, Ecology of Freshwater Fish, Environmental Biology of Fishes, Estuaries and Coasts, Evolution, Evolutionary Applications, Evolutionary Ecology, Frontiers in Ecology and Evolution, Functional Ecology, Gene, Hydrobiologia, Integrative and Comparative Biology, International Journal of Ecology, International Journal of Molecular Sciences, Journal of Biosciences, Journal of Fish Biology, Journal of Evolutionary Biology, Journal of Experimental Biology, Marine and Freshwater research, Micron, Molecular Ecology, Neotropical Biodiversity, Neotropical Ichthyology, Oikos, PeerJ, PLoS One, Quarterly Review of Biology, Revista de Biología Tropical, Royal Society Open Science, Scientific Reports, Texas Journal of Science, Zoology, Zootaxa.

##### **Textbook Reviewer:**

- McCay, T.S. Essential Biostatistics with R. Oxford University Press. Book Project reviewed Feb. 2018.
- Zimmer, Z., and D.J. Emlen. 2013. Evolution, Making Sense of Life. Roberts & Company.

##### **Professional Affiliations:**

- Fellow of the Linnean Society of London.
- Life Member of the Society for the Study of Evolution.

- Member of the American Society of Ichthyologists and Herpetologists.
- Member of the *Red Ecuatoriana de Ictiología* (Ecuadorian Ichthyology Network).

**Professional Development:**

- Attending Online Genome Assembly and Annotation Workshop. Physalia. February 27-March 3, 2023.
- Attended Online Genome Wide Association Studies Workshop. Physalia. May 17-21, 2021.
- Attended Online Eukaryotic Metabarcoding Workshop. Physalia Courses. February 22-26, 2021.
- Attended Online Adaptation Genomics Workshop. Physalia Courses. September 14-18, 2020.
- Attended Online Bioinformatics Boot Camp. Physalia Courses. September 7-11, 2020.
- Attended 3D Slicer and SlicerMorph 3D Geometric Morphometrics Workshop held at Friday Harbor Lab in Washington from August 25-31, 2019.
- Attended Genome Assembly Workshop by Stephen Prost held at the University of Montana, Missoula, November 10-11, 2018.
- Attended Conservation Genomics Workshop held at Flathead Bio Station, Polson, Montana, September 9-15, 2018
- Attended SCAW IACUC Training Workshop and IACUC 301 Training Scenarios Workshop held in New York on September 14-15, 2017.
- Attended IACUC 101 Conference held in Boston, MA, April 2012.
- Attended Backpack Electrofishing: Principles and Practice course. Environmental Outreach and Stewardship Alliance, Phoenix, AZ, March 2010 (three-day course).

**AWARDS AND RECOGNITIONS:**

- May 2021: DePaul QIC College of Science and Health Excellence in Teaching Award.
- June 2014: Excellence in Teaching Award from the National Society of Leadership and Success, DePaul University Chapter.
- April 2014: Best Paper award in the category of Young Scholar/Ichthyology for the 2013 volume of *Copeia*.
- January 2013: DePaul add campaign in which I was featured appeared in DePaul's Distinctions.
- Fall 2012: Featured in DePaul University add campaign running in Chicago magazines, radio, mobile applications, Pandora internet radio and Youtube.
- June 2012: Interview appeared in Q+A section of DePaul University's Newline.
- April 2012: Daily News section of the National Geographic website profiled the discovery of a new Suckermouth catfish species in southwestern Ecuador.
- August 2011: Featured in web extra of Howard Hughes Medical Institute Bulletin article (Vol. 24, No. 3) "Time to Teach". See Chalkboard at: [http://www.hhmi.org/bulletin/aug2011/features/teaching\\_postdoc3.html](http://www.hhmi.org/bulletin/aug2011/features/teaching_postdoc3.html)
- Fall 2010: Featured in DePaul Magazine by Elizabeth Gardner (pp. 16-17).
- Summer 2010: Featured in DePaul University "Distinctions" column by Margaret Hoag.

**STUDENT AWARDS:**

- César Fuentes. 2022. Best Traditional Poster at Midwestern Ecology and Evolution Conference (MEEC). Mar 5-6, Virtual Meeting hosted by University of Kansas.
- Kayla Corcoran. 2021. Named the Biology Major of the Year. DePaul University.
- Kirby Karpan. 2018. Named the Biology Major of the Year. DePaul University.
- Thomas Borders. 2017. Named the Biology Major of the Year. DePaul University.
- Katie Carlson. 2015. Named the Biology Major of the Year. DePaul University.
- Vinh Vu. 2013. Named the Biology Major of the Year. DePaul University.