

Christopher M. Martinez

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Education

- 2014 Ph.D. Marine & Atmospheric Science, Stony Brook University
W. Burghardt Turner Graduate Fellow
Dissertation Title: Diversity of Skates (Batoidea: Rajoidei) and the Spatial Structure of NW Atlantic Communities (*Advisor:* Michael Frisk)
- 2006 B.Sc. Aquatic Biology, University of California, Santa Barbara
Distinction in Major
Honors Thesis: Two-Part Study of a Mutualism Between a New Species of Gammarid Amphipod and Montiporan Corals (*Mentor:* Russell Schmitt)

Positions Held

- 2016-present UC Davis Chancellor's Postdoctoral Fellow. Department of Evolution and Ecology. University of California, Davis (*Supervisor:* Peter Wainwright)
- 2014-2016 Gerstner Scholar & Lerner-Gray Postdoctoral Fellow. Department of Ichthyology, American Museum of Natural History (*Supervisor:* John Sparks)

Peer-Reviewed Publications

Martinez CM & Sparks JS. 2017. Malagasy cichlids differentially limit impacts of body shape evolution on oral jaw functional morphology. *Evolution*. 71(9), 2219-2229.

Martinez CM & Stiassny MLJ. 2017. Can an eel be a flatfish? Observations on enigmatic asymmetrical heterenchelyid eels from the Guinea Coast of West Africa. *Journal of Fish Biology*. 91, 673-678.

Martinez CM, Duplisea DE, Cerrato RM & Frisk MG. 2017. Exploration of trends in interspecific abundance-occupancy relationships using empirically derived simulated communities. *PLoS ONE*. 12(1), e0170816. doi:10.1371/journal.pone.0170816.

Martinez CM, Rohlf FJ & Frisk MG. 2016. Re-evaluation of the morphological diversity of batoid pectoral fins: consequences for locomotion and lifestyle. *Journal of Morphology*. 277(4), 482-493.

Martinez CM, Rohlf FJ & Frisk MG. 2016. Sexual dimorphism in sister species of *Leucoraja* skate and its relationship to reproductive strategy and life history. *Evolution & Development*. 18(2), 105-115.

Dunton K, Jordaan A, Secor D, **Martinez CM**, Kehler T, Hattala K, van Eenennam J, Fisher M, McKown K, Conover DO & Frisk M. 2016. Age and growth of Atlantic sturgeon, *Acipenser oxyrinchus oxyrinchus*, in the New York Bight. *North American Journal of Fisheries Management*. 36, 62-73.

O'Leary SJ, **Martinez CM**, Bauman H, Abercrombie D, Conover DO, Poulakis GR, Murray CH, Feldheim KA & Chapman DD. 2016. Population genetics and geometric morphometrics of Key silversides, *Menidia conchorum*, a marine fish in a highly fragmented inland habitat. *Bulletin of Marine Science*. 92(1), 33-50.

Martinez CM, Arroyave J & Sparks JS. 2015. A new species of *Ptychochromis* from southeastern Madagascar (Teleostei: Cichlidae). *Zootaxa*. 4044, 79-92.

Bergsma GS & **Martinez CM**. 2011. Mutualist induced morphological changes enhance growth and survival of corals. *Marine Biology*. 158, 2267-2277.

In Preparation

Martinez CM, Duplisea DE, Miller TJ & Frisk MG. External influences on northwest Atlantic habitat occupation trends: combined effects of fishing and climate. Draft stage: Written & in final edits.

Martinez CM, McGee MD, Borstein SR & Wainwright PC. Morphological adaptations for evasive prey capture in cichlid fishes result in more dynamic and efficient suction feeding. Draft stage: Written & in final edits.

Competitive Grants & Awards

National Autonomous University of Mexico (PAPIIT-UNAM 2017). *Collaborative Research*: Comparative phylogeography of fishes of cenotes in the Yucatán peninsula, México. Arroyave J, **Martinez CM** & Ocegueda-Figueroa AF. 2017-2019 (\$360,000 MXN ≈ \$20,000 USD).

UC Davis Chancellor's Postdoctoral Fellowship. University of California, Davis. *Research*: Evolution of Head and Jaw Kinesis in Adaptive Radiations of Cichlid Fishes. 2016-2018 (\$96,134).

Teddy Roosevelt Memorial Grant. American Museum of Natural History. *Research*: Genetic diversity and connectivity of *Rhamdia guatemalensis* among cenotes of the Yucatán Peninsula, Mexico. 2016 (\$3500).

Gerstner Scholarship & Lerner-Gray Postdoctoral Fellowship. American Museum of Natural History. *Research*: Diversification of feeding systems in teleost radiations. 2015-2016 (\$100,000).

Woods Hole Oceanographic Institution, Young Scientist Travel Award (ICES Annual Science Conference, Reykjavik, Iceland). Woods Hole Oceanographic Institute. 2013 (\$1968).

Turner Summer Research Grant. Center for Inclusive Education, Stony Brook University. 2013 (\$2497), 2011 (\$3868) & 2009 (\$1200).

Lerner-Gray Fund for Marine Research. American Museum of Natural History. *Research*: Pectoral fin diversity in Batoid fishes. 2012 (\$1900).

W. Burghardt Turner Graduate Fellowship. Center for Inclusive Education, Stony Brook University. 2007-2012 (\$50,000).

Presidential Graduate Fellowship. Stony Brook University. 2007 (\$2,500).

Worster Summer Internship Research Award. University of California at Santa Barbara. 2005.

Conference Presentations (selected)

Martinez CM, McGee MD & Wainwright PC. Evolution of Feeding Kinesis in African Cichlids. Joint Meeting of Ichthyologists & Herpetologists. 2017. Austin, TX.

Martinez CM, Rohlf FJ & Frisk MG. Extent and Prevalence of Sexual Dimorphism in Skates (Batoidea: Rajoidei). Society for Integrative and Comparative Biology. 2017. New Orleans, LA.

Martinez CM, Rohlf FJ & Frisk MG. Have we been underrepresenting the morphological & ecological diversity of skates? Joint Meeting of Ichthyologists & Herpetologists. 2016. New Orleans, LA.

Martinez CM & Sparks JS. Covariation of body and oral jaw shapes in Malagasy cichlids. Society for Integrative and Comparative Biology. 2016. Portland, OR.

Martinez CM & Sparks JS. Morphological diversity of the cichlid subfamilies Etroplinae & Ptychochrominae (*poster*). Joint Meeting of Ichthyologists & Herpetologists. 2015. Reno, NV.

Martinez CM, Rohlf FJ & Frisk MG. Sexual dimorphism in sister species of *Leucoraja* skate and its relation to reproductive strategy and life history. Joint Meeting of Ichthyologists & Herpetologists. 2015. Reno, NV.

Martinez CM, Duplisea DE, Miller TJ & Frisk MG. Trends in northwest Atlantic habitat occupation: joint effects of climate variation and harvest removals. International Council for the Exploration of the Sea (ICES) Annual Science Conference. 2013. Reykjavík, Iceland.

Martinez CM & Frisk MG. Connecting form and function: ecomorphology of little & winter skate. 2012 Society for Advancement of Chicanos and Native Americans in Science National Conference. 2012. Seattle, WA. (*Best Graduate Presentation, E&E*)

Martinez CM, Duplisea DE, Trenkel VM, Miller TJ & Frisk MG. Environmental and anthropogenic factors affecting community structure within and among northwest Atlantic ecosystems. American Fisheries Society Annual Meeting. 2012. Minneapolis, MN.

Martinez CM, Duplisea DE, Trenkel VM, Miller TJ & Frisk MG. Temporal and spatial patterns of interspecific abundance-occupancy relationships across western Atlantic fishery ecosystems. American Fisheries Society Annual Meeting. 2011. Seattle, WA.

Martinez CM. Spatial patterns in the distribution of winter flounder, *Pseudopleuronectes americanus*, among several bays on the coast of Long Island, New York. Stony Brook University, Center for Inclusive Education Research Café. 2009. Stony Brook, NY.

Teaching Experience

Courses Taught

EVE 198, **Biodiversity of Fishes**. University of California, Davis. Fall, 2017.

EVE 189/199, **Introduction to Biological Research**. University of California, Davis. Fall, 2017.

PHY 119, **Physics for Environmental Studies**, Laboratory course. Stony Brook University. Fall, 2009.

BIO 204, **Fundamentals of Scientific Inquiry**, Laboratory course. Stony Brook University. Fall, 2007.

Guest Lectures

BY 205, **Zoology** (undergraduate). *Title*: Morphological research in aquatic biology. Monmouth University. Fall, 2015.

MAR 385, **Fisheries Biology and Management** (undergraduate). *Title:* Evolution of fishes. Stony Brook University. Fall, 2014.

MAR 502, **Biological Oceanography** (graduate). *Title:* Fish biology & upwelling fisheries. Stony Brook University. Fall, 2010.

MAR 502, **Biological Oceanography** (graduate). *Title:* Population dynamics. Stony Brook University. Fall, 2010.

Marine Ecology (high school). *Title:* Tropical reef ecology: basic principles with a great view. Smithtown High School-West; Smithtown, NY. April, 2008.

Invited Talks & Seminars

Invited speaker, Department of Integrative Biology, University of California, Berkeley. *Title:* Morphological and kinematic evolution of cichlid jaws. April, 2017.

Seminarios del IBUNAM, Institute of Biology, National Autonomous University of Mexico. *Title:* Morphological and kinematic evolution of oral jaws in cichlids. February, 2017.

Comparative Biology Seminar Series, Richard Gilder Graduate School, American Museum of Natural History. *Title:* Ecomorphology of fish feeding systems: integrating form, function, and lifestyle. May, 2016.

Senate Meeting, American Museum of Natural History. *Title:* Form, function & evolution of jaws in cichlid fishes. February, 2016.

Students Mentored

Jolie Dorman & Jacqueline Abraham (NYC high school students). Science Research Mentoring Program (SRMP), American Museum of Natural History. *Research:* Jaw Diversity in the deep-sea order of fishes, Stomiiformes (Actinopterygii: Teleostei). 2015-2016 (9 mo.).

Bryan Kao (Undergraduate, Columbia University). NSF Research Experiences for Undergraduates (REU), American Museum of Natural History. *Research:* Sexual dimorphism in skates of the genus *Fenestraja*. Summer, 2015.

Wesley Robinson, Danielle Francois & Emily Nocito (Undergraduates, Stony Brook University). *Research:* Pectoral fin diversity in batoid fishes. 2013-2014

Outreach & Service

Member, Diversity Committee for the American Society of Ichthyologists and Herpetologists. 2017-present.

Member, External advisory board for NSF grant NRT-DESE-1633299; Interdisciplinary Graduate Training to Understand and Inform Decision Processes Using Advanced Spatial Data Analysis and Visualization. 2016-present.

Founder and President, SACNAS Stony Brook University Chapter. *Description:* Started a campus chapter of the national organization, Society for Advancement of Chicanos and Native Americans in Science. Among other duties, I arranged regular meetings, petitioned funds and planned outreach activities. 2013-2014.

Graduate Mentor, Community of Student Mentors, Center of Inclusive Education, SBU. *Description:* As a senior graduate student, I mentored a first-year underrepresented minority graduate student. 2013.

Recruiter, Stony Brook Center for Inclusive Education. *Description:* I volunteered at the SBU booth at national SACNAS meetings in Seattle, WA and San Antonio, NY. 2012 & 2013.

Invited Speaker, Western Suffolk BOCES summer science program. *Description:* I spent one day each year speaking at a summer day-camp for underrepresented minority students from low-income communities. In addition to presenting my research, I assisted students in laboratory exercises. 2008-2014.

Invited Speaker, Career Panel, American Museum of Natural History. *Description:* I participated in a question and answer session for high school and college students volunteering at the AMNH. 2016.

Invited Speaker, Meet the Scientist, American Museum of Natural History. *Description:* Gave three presentations in the AMNH Discovery Room in an ongoing lecture series that exposes the general public to museum research. 2016.

Invited Speaker, Adventures in Ocean Science Camp, American Museum of Natural History. *Description:* Gave a presentation on fish jaws at a day camp for children (5-6 years old), including a hands-on session with specimens from the museum's teaching collection. 2015.

Honors

Best graduate presentation in ecology & evolution. SACNAS National Conference. 2012.

Distinction in major, Aquatic Biology. University of California, Santa Barbara. 2006

California Scholarship Federation, lifetime member. 2002.

Research Experience & Expeditions

Expedition Leader: Collections trip to the Yucatán Peninsula, Mexico

Description: Led an international team of researchers on a field expedition, collecting fishes from cenotes (sinkholes) of southern Mexico. 8-18 February, 2017.

Expedition Associate: Research Cruise, SP1610 on R/V Robert Gordon Sproul.

Description: Midwater trawling cruise for deep-sea fishes off the coast of San Diego, CA. 15-21 May, 2016.

Research Assistant. NSF/NOAA CAMEO Grant. Stony Brook University.

Description: Statistical analyses of spatial dynamics in NW Atlantic communities. 2010-2013.

Research Assistant. Hudson River Striped Bass Survey. Stony Brook University.

Description: Collection and identification of lower Hudson River fishes. 2008.

Laboratory Assistant. Moorea Coral Reef LTER. UC Santa Barbara.

Description: Research diving and field research for Schmitt/Holbrook lab. 2005-2007.

Laboratory Assistant. UC Santa Barbara.

Description: Laboratory research on mating systems in plants. 2003-2005.

Professional Service

Journal reviewer: Nature: Scientific Reports; Evolution; Journal of Fish Biology; Zootaxa; Cybium

Proposal reviewer: Lerner-Gray Fund for Marine Research, American Museum of Natural History. 2015-2016.

Society Membership

American Society of Ichthyologists & Herpetologists

Society for Integrative and Comparative Biology

Society for Advancement of Chicanos & Native Americans in Science