

Kenyon College – Department of Biology
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Laura X. Mendez
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EDUCATION

- 2025 Ph.D. in Biology, **University of North Carolina at Chapel Hill**
Dissertation title: Characteristics and biomechanics of bird flight out of and over water.
- 2019 M.S. in Biostatistics, **University of Louisville**
Practicum: Linear mixed models for predictions on stepping patterns in a pediatric population.
- 2015 M.S. in Kinesiology, **The Pennsylvania State University**
Thesis title: Human gastrocnemius muscle pennation angle variation.
- 2011 B.S. in Biology, **Universidad de los Andes** (Bogotá, Colombia)
Thesis title: Flight musculature and body morphology of social wasp species (*Hymenoptera: Vespidae: Polistinae*).

HONORS AND AWARDS

- 2024-2025 Dissertation Completion Fellowship, University of North Carolina at Chapel Hill (\$22,000)
- 2024 Department of Biology Summer Research Award, University of North Carolina at Chapel Hill (\$4,200)
- 2023 TIBBS Summer Teaching Series Course Assessment Design Award, University of North Carolina at Chapel Hill
- 2022 Tri-Beta National Biological Honor Society TA Teaching Award for Excellence in the Teaching of Biology, University of North Carolina at Chapel Hill
- 2019 Initiative for Minority Excellence Top-Up award, University of North Carolina at Chapel Hill (\$5,000)
- 2012-2014 COLFUTURO scholarship, Bogotá, Colombia (\$50,000)

PUBLICATIONS

* indicates a high school or undergraduate student author

- Chizhikova, S. *, **Mendez, L.X.**, Hedrick, T.L. (2025). Behavior and Biomechanics: Flapping frequency during tandem and solo flights of Cliff Swallows. *Journal of Experimental Biology* 228(1): jeb249393.
- Mendez, L.X.** and Hedrick, T.L. (2024). Wind gradient exploitation during foraging flights by black skimmers (*Rynchops niger*). *Journal of Experimental Biology* 227(16): jeb246855.
- Friman, S.I., Elowe, C.R., Hao, S., **Mendez, L.**, Ayala, R. *, Brown, I. *, Hagoood, C. *, Hedlund, Y. *, Jackson, D. *, Killi, J. *, Orfanides, G. *, Ozcan, E. *, Ramirez, J. *, Gerson, A.R., Breuer, K.S., Hedrick, T.L. (2024). It pays to follow the leader: metabolic cost of flight is lower for trailing birds in small groups. *Proceedings of the National Academy of Sciences of the United States of America* 121(26): e2319971121.
- Atkinson, D.A., **Mendez, L.**, Goodrich, N., Aslan, S.C., Ugiliweneza B., Behrman A.L. (2019). Muscle activation patterns during movement attempts in children with acquired spinal cord injury: Neurophysiological assessment of residual motor function below the level of lesion. *Frontiers in Neurology* 10:1295.

PRESENTATIONS

Talks

- 2025 **Mendez, L.,** T. Hedrick. Comparing the aquatic takeoff of birds with different morphologies. UNC Department of Biology Recruitment Lightning Talks. Chapel Hill, NC.
- 2025 **Mendez, L.,** A. Li, I. Reed, V. Yan, T. Hedrick. Playing it safe: Foraging barn swallows increase maneuverability by slowing down over water. UNC Department of Biology Annual Retreat. Chapel Hill, NC.
- 2025 **Mendez, L.,** T. Hedrick. Leaping to glory: Characterizing the aquatic takeoff of birds. Society for Integrative and Comparative Biology Annual Conference. Atlanta, GA.
- 2024 **Mendez, L.,** T. Hedrick. Characteristics of aquatic takeoff between bird species. Society for Integrative and Comparative Biology Regional Southeast Conference. Harrisonburg, VA.
- 2024 **Mendez, L.,** T. Hedrick. Strategies used by birds to harvest energy from the wind during foraging flights: A black skimmer story. UNC Department of Biology Flash Talks. Chapel Hill, NC.
- 2024 **Mendez, L.,** A. Li, I. Reed, V. Yan, T. Hedrick. Weighing the risks: Foraging barn swallows decrease flight speed over water. Society for Integrative and Comparative Biology Annual Conference. Seattle, WA.
- 2023 **Mendez, L.,** A. Li, I. Reed, V. Yan, T. Hedrick. Barn swallows foraging over water. Society for Integrative and Comparative Biology Regional Southeast Conference. Blacksburg, VA.
- 2023 **Mendez, L.,** T. Hedrick. Skimming in the wind: Do black skimmers take advantage of the wind to power foraging? Society for Integrative and Comparative Biology Annual Conference. Austin, TX.
- 2022 **Mendez, L.,** T. Hedrick. Skimming in the wind: Foraging at the water surface in windy conditions. Society for Integrative and Comparative Biology Annual Conference. Phoenix, AZ. (Virtual).
- 2019 **Mendez, L.,** C. Sarmiento. Flight musculature and thorax morphology of social vespids (*Hymenoptera: Vespidae: Polistinae*). Society for Integrative and Comparative Biology Regional Southeast Conference. Winston-Salem, NC.
- 2018 **Mendez, L.,** N. Foster. Motion Analysis: Capturing the impact of spinal cord injury and recovery-based interventions in the pediatric population. Xsens Annual User Meeting North America. Los Angeles, CA.

Posters

- 2024 Zheng, A., **L.X. Mendez,** T. L. Hedrick. Royal Tern Plunge Diving Dynamics. Society for Integrative and Comparative Biology Regional Southeast Conference. Harrisonburg, VA.
- 2022 Li, A., I. Reed, V. Yan, **L. Mendez,** T. Hedrick. Barn swallow foraging kinematics over water. Society for Integrative and Comparative Biology Regional Southeast Conference. Durham, NC.
- 2021 **Mendez, L.,** T. Hedrick. Are black skimmers using tailwinds to forage over the water? Society for Integrative and Comparative Biology Regional Southeast Conference. Atlanta, GA.
- 2019 Singh, G., **L. Mendez,** B. Ugiliweneza, A. Behrman. Contribution of trunk muscles to upright sitting with segmental support in children with spinal cord injury. Society of Neuroscience Annual Conference. Chicago, IL.
- 2019 **Mendez, L.,** N. Foster, B. Andrews, N. Stepp, D. Rouffet, A. Behrman. Motion analysis in pediatric populations: Overcoming the challenges. Pediatric NeuroRecovery Summit. Louisville, KY.
- 2019 Andrews, B., N. Stepp, N. Foster, **L. Mendez,** N. Chaudhry, A. Behrman, D. Rouffet. Validity of gait kinematic analysis in children using Xsens system. Kentucky Spinal Cord and Head Injury Research Trust Symposium. Louisville, KY.

- 2016 Atkinson, D., S. Trimble, **L. X. Mendez**, S. Aslan, S. Harkema, A. Behrman. Functional neurophysiological assessment of volitional motor control following pediatric spinal cord injury. Society of Neuroscience annual meeting. San Diego, CA.
- 2014 **Mendez, L.**, J. Challis. Gastrocnemius muscle fiber pennation at various ankle angles and angular speeds. The Pennsylvania State University Graduate Exhibition. State College, PA.
- 2010 Salinas, C., **L. Mendez**. Phylogeny of pinnipeds (Pinnipedia): Determination of the internal relationships of the families and their use to justify conservation units. Congreso Colombiano de Zoología. Medellín, Colombia.

TEACHING AND MENTORSHIP

- 2025 Research Mentor: Casey Brundage and Mackenzie Bouchillon, undergraduate students at the University of North Carolina at Chapel Hill. Project: Avian aquatic takeoff characteristics.
- 2024-2025 Research Mentor: Anna Zheng, undergraduate student at the University of North Carolina at Chapel Hill. Project: Royal terns plunge dive foraging kinematics.
- 2024 Biomechanics Peer Mentoring Group: Ananth Srinivas, Danna Sanchez Hernandez, Ori Stearns
- 2024 Guest Lecturer, Durham Technical Community College. BIO 112: General Biology II
- 2022-2023 Research Mentor: Amanda Li, high school senior from the North Carolina School of Science and Mathematics Mentorship Program. Project: Barn swallow foraging kinematics over water.

Teaching Assistant at The University of North Carolina at Chapel Hill

- 2023-2024 BIOL 451L: Comparative Physiology Laboratory (Spring)
- 2022 BIOL 451L: Comparative Physiology Laboratory (Spring)
BIOL 101L: Introductory Biology Laboratory (Summer)
BIOL 252L: Fundamentals of Human Anatomy & Physiology Laboratory (Fall)
- 2021 BIOL 101L: Introductory Biology Laboratory (Spring; Summer)
BIOL 252L: Fundamentals of Human Anatomy & Physiology Laboratory (Fall)
- 2020 BIOL 101L: Introductory Biology Laboratory (Spring; Fall)
- 2019 BIOL 101L: Introductory Biology Laboratory (Fall)

Women and underrepresented genders in STEM promoting Inclusion in Research Experience ([WinSPIRE](#))

- 2023 College Mentor: Workshop on how to design and present a poster for 11 high school junior participants
- 2021 Research Mentor: Keerthi Avula (high school junior). Project: Altitude changes in foraging black skimmers.

Teaching Assistant at The Pennsylvania State University

- 2013-2014 KINES 384L: Biomechanics Laboratory (Spring; Summer)

PROFESSIONAL EXPERIENCE

2025-present	<i>Postdoctoral Fellow</i> Wright Lab.	• Effects of morphological dimorphism in flight performance of birds.	Kenyon College, Gambier, OH
2021	<i>Research Assistant</i> Hedrick Lab. Project funded by NSF	• Aerodynamics and metabolic costs of European Starlings under different flow conditions.	University of North Carolina, Chapel Hill, NC
2015-2019	<i>Research Technologist II</i> Kentucky Spinal Cord Injury Research Center, Kosair Charities Center for Pediatric NeuroRecovery	• Validation of inertial measurement units for a pediatric population. • Pediatric spinal cord injury functional neurophysiological assessment of motor control.	University of Louisville, Louisville, KY
2014	<i>Research Assistant</i> Challis Lab. Project funded by boba®	• Validation of a boba® baby carrier.	The Pennsylvania State University, State College, PA
2011	<i>Laboratory Volunteer</i> Quakertown Veterinary Clinic	• Blood and urine analysis of house pets.	Quakertown, PA
2007-2008	<i>Research Assistant</i> Andean Arachnology Research Group	• Morphology diversity of arachnids in the Colombian Andean region.	Universidad de los Andes, Bogotá, Colombia

SERVICE AND OUTREACH

2025	Interactive activity on form-function of vertebrate morphology, STEMville Science Summit , UNC at Chapel Hill		
2025	Interactive exhibit on hawkmoths, UNC Science Expo , UNC at Chapel Hill		
2025	Invited Panel Speaker, “Women Leading Change: Pathways to Create Impact in Academia and Community”. UNC Latine Graduate and Professional Student Association Speaker Series . Chapel Hill, NC.		
2025	Workshop organizer, “Connect with your community: Latine and Hispanic students and researchers in STEM”, Society for Integrative and Comparative Biology Annual Conference , Atlanta, GA.		
2024	Reviewer, PRELUDIUM research proposal - National Science Centre , Kraków, Poland		
2024-present	Co-founder, Latinas Advocating for Science Education		
2024	Interactive exhibit on muscle function, Latine Researchers in STEM Science Fair , Frank Porter Graham Elementary School, Chapel Hill		
2024	Interactive activity on antagonist muscle action, STEMville Science Spectacular , UNC at Chapel Hill		
2023	Interactive activity on bird flight muscles, STEMville Science Spectacular , UNC at Chapel Hill		

2023	Interactive exhibit on hawkmoths, UNC Science Expo , UNC at Chapel Hill
2022-2023	President, UNC Biology Graduate Student Association , UNC at Chapel Hill
2022-2023	Co-founder and Officer, UNC Latine Graduate and Professional Student Association , UNC at Chapel Hill
2022-2023	College Mentor Coordinator, WinSPIRE , UNC at Chapel Hill
2022	Interactive activity on bird wings, STEMville Science Spectacular , UNC at Chapel Hill
2022	Interactive exhibit on hawkmoths, UNC Science Expo , UNC at Chapel Hill
2022	Judge, Elementary Earth & Environmental Sciences NC Region 3A Science and Engineering Fair (Virtual)
2022	Interactive exhibit on hawkmoths, BugFest , NC Museum of Natural Science
2021-2022	Officer, UNC Biology Graduate Student Association , UNC at Chapel Hill
2021-2022	Student Coordinator, WinSPIRE , UNC at Chapel Hill
2021	Committee Member, Stigma Free Carolina , UNC at Chapel Hill
2019-2021	Advisory Board Member, UNC Initiative for Minority Excellence , UNC at Chapel Hill
2017-2018	Interactive exhibit on the spinal cord, Brain Days , Kentucky Science Center
2016	Judge, duPont Manual High School Science Fair , Louisville
2014	President, Penn State Latino American Graduate Student Association , Penn State
2013	Committee Member, Kinesiology Department Diversity and Climate Committee , Penn State

PROFESSIONAL MEMBERSHIPS

Society for Integrative and Comparative Biology
 American Ornithological Society

CERTIFICATES

2023	UNC Future Science Educators: “Training Initiative in Biomedical & Biological Sciences (TIBBS) Summer Teaching Series”
2023	Safe Zone Project: “Foundational Safe Zone Training”
2021	UNC Graduate School: “Entering Mentoring Training”