Moises Rivera, Ph.D.

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EDUCATION

Doctor of Philosophy, Psychology **June 2023**
The Graduate Center of the City University of New York, New York, NY
Doctoral Dissertation: *Statistical and Biological Analyses of Acoustic Signals in Estrildid Finches*

Master of Philosophy, **Psychology** **September 2019**
The Graduate Center of CUNY, New York, NY *En Route Master's Degree (GPA: 3.98)*

Master of Arts, **Psychology** **January 2018**
Hunter College, New York, NY *En Route Master's Degree*

Bachelor of Science, Zoology **May 2012**
Auburn University, Auburn, AL *Summa Cum Laude (GPA: 3.82)*

Associate of Arts, Biology **August 2009**
Miami Dade College, Miami, FL *Highest Honors (GPA: 3.92)*

PUBLICATIONS

Rivera, M., Edwards, J. A., Hauber, M. E., & Woolley, S. M. N. (2023). Machine learning and statistical classification of birdsong link vocal acoustic features with phylogeny. *Scientific Reports*, 13:7076. https://doi.org/10.1038/s41598-023-33825-5

Yeh, Y.-T., **Rivera, M.**, & Woolley, S. M. N. (2023). Auditory sensitivity and vocal acoustics in five species of estrildid songbirds. *Animal Behaviour*, 195:107-116. https://doi.org/10.1016/j.anbehav.2022.11.002

[1]Antonson, N. D., [1]**Rivera, M.**, Abolins-Abols, M., Kleindorfer, S., Liu, W.-c., & Hauber, M. E. (2021). Early auditory experience alters genome-wide methylation in the auditory forebrain of songbird embryos. *Neuroscience Letters*, 755. https://doi.org/10.1016/j.neulet.2021.135917
Covered in Medical Xpress.
[1]Shared first-authorship; these authors contributed equally to this work.

Rivera, M., Cealie, M., Hauber, M. E., Kleindorfer, S., & Liu, W.-c. (2019). Neural activation in response to conspecific songs in zebra finch (*Taeniopygia guttata*) embryos and nestlings. *NeuroReport*, 30:217-221. https://doi.org/10.1097/WNR.0000000000001187
Covered in IFLScience!

Rivera, M., Louder, M. I. M., Kleindorfer, S., Liu, W.-c., & Hauber, M. E. (2018). Avian prenatal auditory stimulation: Progress and perspectives. *Behavioral Ecology and Sociobiology*, 72:112. https://doi.org/10.1007/s00265-018-2528-0

PRESENTATIONS AND POSTERS

Yeh, Y.-T., **Rivera, M.**, & Woolley, S. M. N. 25 June 2021. Sender-Receiver Communication: The Coevolution of Vocalization and Hearing in the Estrildid Finches. Biological Science Symposium, Columbia University, New York, NY *(Online)*.

Rivera, M. & Woolley, S. M. N. 18 June 2021. Emerging Model for Multilingual Studies with Estrildid Birds. Advanced Science Research Center at the Graduate Center – CUNY, Promoting Science Accessibility Symposium, New York, NY *(Online)*.

Rivera, M. & Woolley, S. M. N. 18 May 2021. Preference for Paternal, Maternal, and Hybrid Birds by Bengalese-x-Long-tailed Finch Hybrids. International Student Symposium for Animal Behaviour and Cognition, London, Ontario, CA *(Online)*.

Rivera, M. & Woolley, S. M. N. 7 May 2021. Preference for Foster vs. Native Species Birds in Cross-fostered Bengalese Finches. The Graduate Center – CUNY, Psychology Research Day, New York, NY *(Online)*.

Rivera, M. & Woolley, S. M. N. 7 April 2021. Preference for Paternal, Maternal, and Hybrid Males by Bengalese-x-Long-tailed Finch Hybrid Females. Comparative Cognition Society, Comparative Cognition Conference *(Online)*.

Rivera, M. Female preference for male song in Estrildid finches. Lab Groups at University of Illinois – Urbana-Champagne (Virtual, Urbana-Champaign, IL, March 2021). *Invited Talk.*

Rivera, M., Shankar, P., &Woolley, S. M. N. 1 May 2020. Preference for Foster vs. Native Species females in cross-reared Bengalese finch males. The Graduate Center – CUNY, Psychology Research Day, New York, NY. *Originally prepared for CO3 (Conference cancelled)*.

Monnen, C., **Rivera, M.**, & Woolley, S. M. N. 5 December 2019. Effects of long-tailed finch cross-tutoring on juvenile Bengalese finch song development. Columbia University, E3B Research Day, New York, NY.

Shankar, P., **Rivera, M.**, & Woolley, S. M. N. 29 April 2019. Differential response to acoustically similar vs. dissimilar calls in zebra finch. Barnard College, Psychology Research Festival, New York, NY.

Rivera, M. Multispecies behavioral preference and auditory discrimination tests in finches (*Estrildidae*). Animal Behavior and Comparative Psychology Mini Symposium at The Graduate Center (New York, NY, May 2018). *Invited talk.*

Rivera, M. Embryonic learning and species recognition. General Experimental Psychology at Hunter College (New York, NY, May 2017). *Invited Talk.*

RESEARCH EXPERIENCE

Mortimer B. Zuckerman Mind, Brain, and Behavior Institute at Columbia University, New York, NY (2016 – Present)

Graduate Researcher – Communication Neuroscience Laboratory.
Mentor: Sarah M. N. Woolley, Ph.D.

- Ongoing research to investigate the effects of phylogeny and acoustic features on the behavioral preference of African and Australian female Estrildid finches for songs of conspecific and heterospecific males as well as for individual conspecifics.
- Coordinated administrative tasks with institute leadership for maintenance and advancement of our research as well as daily operations with regards to researchers and animals during periods of transition, normalcy, and uncertainty (e.g., imposed by travel and access restrictions).
- Performed, assisted, and supervised behavioral research using live birds for various projects.
- Set up and managed new breeding colonies of multiple bird species.

The Rockefeller University and Colgate University, New York and Hamilton, NY (2016 – 2019)
Graduate Researcher – Laboratories of Animal Behavior and Psychological and Brain Science.
Mentors: Wan-chun Liu, Ph.D. and Mark E. Hauber, Ph.D.

- Designed and conducted original research studies to investigate effects of song exposure on perinatal zebra finches.
- First to report (Rivera et al., 2019) on neural activation in embryo and hatchling zebra finch (*T. guttata*) following exposure to conspecific song vs. heterospecific song and silence.

The City University of New York, New York, NY (2015 – 2017)
Graduate Researcher – Various Laboratories of Neuroethology.
Mentors: Carolyn Pytte, Ph.D. (Queens College), Christopher B. Braun Ph.D. (Hunter College)

- Performed research tasks and acquired skill set for research in the field of neuroethology.
- Led set up of an operant training lab for behavioral testing of birds at Queens College.

Auburn University, Auburn, AL (2011 – 2012)
Undergraduate Researcher – Comparative Cognition Laboratory.
Mentor: Jeffrey S. Katz, Ph.D.

- First to research, interpret, and report (in a written Honors Thesis) on the effects of probe delay and masking on visual short-term memory of white carneau pigeons (*Columba livia*).
- Assisted graduate researcher in evaluating participants for ophidiophobia and arachnophobia and effects on attentiveness they may experience when presented threat words in a word sequence.
- Assisted in the assessment of novel-item transfer testing and stimulus reversals in a *same/different* task in *Columba livia* and second-authored and presented poster at Annual Research and Teaching Festival.

Dauphin Island Sea Lab, Dauphin Island, AL (2010)
Undergraduate Researcher – Credits earned toward major
Mentor: Just Cebrian, Ph.D.

- Investigated and presented findings on the absorption rate of human nutrient pollution by *Juncus roemerianus*.

TEACHING AND ACADEMIC EXPERIENCE

Hunter College, New York, NY (Spring 2023, 2022, 2021; Fall 2022, 2018)
Instructor on Record – General Experimental Psychology.

- Taught a writing-intensive course in psychological research design.
- Created course materials including syllabus, schedule, lesson plans, and assignments to best prepare students for research and reporting in psychological research.

Hunter College, New York, NY (Spring 2023; Fall 2021)
Lab and Recitation Instructor – Undergraduate Statistical Methods in Psychology.

- Led a practicum in order to help students apply their theoretical background of statistics into working knowledge using various data management and statistical analysis programs.
- Corrected and updated course materials for college-wide use.

Hunter College, New York, NY (Fall 2022, 2021; Spring 2022)
Instructor on Record – Research Methods in Psychology.

- Taught a course in psychological research methods.
- Created course materials including syllabus, schedule, lesson plans, and assignments to best prepare students for research design and continued study in Psychology.

Hunter College, New York, NY (Fall 2020)
Teaching Assistant – Graduate Statistics I.

- Worked alongside instructors in designing and grading assignments for a graduate course in statistics focused on psychological research.
- Designed and conducted lecture on non-parametric statistical methods and their application using real data from my own empirical research studies.

Hunter College, New York, NY (Fall 2019 – Spring 2020)
Writing Across the Curriculum Fellow – Department of Psychology.

- Worked closely with staff in the Psychology department to design, test, and adapt a rubric for grading student writing in quantitative disciplines, especially as it relates to Psychology and research reporting.
- Met weekly with other graduate fellows to discuss course designs and ideas for incorporating writing as a pedagogical tool for teaching as well as assessment.

Hunter College, New York, NY (Fall 2016 – Spring 2018)
Teaching Assistant – General Experimental Psychology.

- Worked alongside instructors in designing and conducting lessons for a writing-intensive course in psychological research design.
- Worked directly with students in writing APA style research reports, including: reviewing APA writing style; creating a grading rubric to outline expectations and requirements; leading and supervising writing workshops, peer review, and outline reviews; and grading papers, providing thorough feedback, and meeting to discuss points for improvement of their specific assignment and general writing.

Auburn University, Auburn, AL (2011)
Undergraduate Teaching Assistant – Vertebrate Biodiversity

- Worked alongside instructors in supervising field data collection and directly with students in designing field studies and reporting these in full-length scientific report.

School for Advanced Studies, Miami, FL (2008 – 2009)
Student Teaching Assistant – Advanced Placement Calculus 1, and Precalculus Mathematics

- Organized and led tutoring and lectures of students in preparation for exams, which included writing sections. Assisted instructor in coordinating and grading a project that required students to mathematically model equations and to explain their work in writing in addition to mathematic formulation.

ADVISING AND RESEARCH MENTORSHIP

Pooja Shankar (2018 – 2020): Senior thesis supervision for the B.A. in Neuroscience and Behavior, *Barnard College*

Olamiposi Akinsooto (2019 – 2020): Senior thesis supervision for the B.A. in Neuroscience and Behavior, *Columbia University*

Christina Monnen (2018 – 2019): Senior thesis supervision for the B.A. in Ecology, Evolution, and Environmental Biology, *Columbia University*

FUNDING, AWARDS, RECOGNITIONS, AND MEDIA COVERAGE

Graduate Assistant A (GAA). Hunter College, City University of New York. (Fall 2020–Summer 2021)
Graduate Center Fellowship: Graduate Assistant B (GCF:GAB). The Graduate Center of the City University of New York. (Fall 2015–Summer 2020)
Fadelli, I. (2021, June 3). Early acoustic experiences alter methylation in songbird embryo's forebrain. *Medical Xpress*.
Luntz, S. (2019, January 2). Baby birds can recognize parents' songs while still in the egg. *IFLScience!*
Doctoral Student Research Grant, The Graduate Center at CUNY (2019–2020)
Honorable Mention, Graduate Research Fellowship Program of the National Science Foundation (2016)
Seven-time Dean's List Scholar, College of Sciences and Mathematics at Auburn University (2009–2012)
University Honors Scholar, Honors College at Auburn University (2012)
Marge and Leo Hirth Hillel Leadership Award, Jewish Student Organization of Auburn University (2012)
Alpha Award in Meteorology, Miami Dade College (2009)
Alpha Award in Oceanography, Miami Dade College (2008)

EXTRACURRICULAR AND LEADERSHIP EXPERIENCE

Psi Chi International Honor Society in Psychology (inducted 2016)
Phi Kappa Phi National Honor Society (inducted 2012)
Auburn University Jewish Student Organization - Hillel (President 2011-2012)
Mu Alpha Theta National Mathematics Honors Society (President 2008 – 2009)
School for Advanced Studies Student Government Association (President 2008 – 2009)

SKILLS, CERTIFICATIONS, AND PROFESSIONAL DEVELOPMENT

- Knowledgeable in computer programs including R, MATLAB, Microsoft Office Suite, Aadobe Suite, JASP, SPSS, and other statistical and bioanalytic programs.
- English/Spanish bilingual (fluent in both).