

# Chauncey R. Gadek

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## Education

- 2019– **PhD Student**, Biology,  
*Department of Biology, University of New Mexico*  
Advisor: Dr. Christopher Witt
- 2019 **M.S.** Biology with *Distinction*,  
*Department of Biology, University of New Mexico*  
Advisor: Dr. Christopher Witt
- 2016 **B.S.**, Biology (Highest Honors, *summa cum laude*; minor in Chemistry)  
*Department of Biology, University of New Mexico*

## Professional Appointments

- 2021– Biologist, Los Alamos National Laboratory
- 2016–2021 Graduate Teaching, Research, and Curatorial Assistant, University of New Mexico and Museum of Southwestern Biology

## Peer-Reviewed Publications

11. Salazar-Hamm, P.S. ‡, **Gadek, C.R.** ‡, Mann, M. A., Steinberg, M, Montoya, K. M., Behnia, M., Gyllenhaal, E. F., Brady, S. S., Takano, O. M., Williamson, J. L., Witt, C. C., and Natvig, D.O. The avian lung mycobiome: phylogenetic and ecological drivers of lung-fungal communities and their potential pathogens. In review. ‡Equal contributions ([preprint](#))
10. Williamson, JL, **Gadek, CR**, Gyllenhaal, EF, Bauernfeind, SM, Bautista, EO, Baumann, MJ, Ricote, N, Marra, PP, Bozinovic, F, Singh, ND, and Witt, CC Taxonomy, nomenclature, and identification of the giant hummingbirds (*Patagona* spp.) (Aves: Trochilidae). In review. ([preprint](#))
9. Williamson, J.L., Gyllenhaal, E.F., Bauernfeind, S.M., Bautista, E., Baumann, M.J., **Gadek, C.R.**, Marra, P.P., Ricote, N., Valqui, T., Bozinovic, F. and Singh, N.D., 2024. Extreme elevational migration spurred cryptic speciation in giant hummingbirds. *Proceedings of the National Academy of Sciences*, 121(21), p.e2313599121. ([link](#))
8. Schmidt, CJ, **Gadek, CR**, Bautista, E, Segura, M, Witt, CC, 2023, First record of Austral Negrito (*Lessonia rufa*) for Peru, *Boletín UNOP* Vol 18. Nº 1. ([link](#))
7. Witt, CC, **Gadek, CR**, Cartron, J-L, Andersen, MJ, Campbell, ML, Castro-Farías, M, Gyllenhaal, EF, Johnson, AB, Malaney, J, Montoya, KN, Patterson, A, Vinciguerra, NT, Williamson, JL, Cook, JA, and Dunnum, JL. Extraordinary levels of per- and poly-fluoroalkyl substances (PFAS) in vertebrate animal tissues at a New Mexico desert oasis: multiple pathways for wildlife and human exposure. *Environmental Research* 249: 118229. ([link](#))
6. **Gadek, C.R.**, Williamson, J.L. and Witt, C.C., 2022. Intra-and interspecific nest stacking in marsh-dwelling songbirds. *Biotropica*, 54(5), pp.1131-1136. ([link](#))
5. Linck, E, Williamson, JL, Bautista, E, Beckman, EJ, Benham, PM, DuBay, SG, Flores, LM, **Gadek, CR**,

Johnson, AB, Jones, MR, and Núñez-Zapata, J, 2021. Blood variation implicates respiratory limits on elevational ranges of Andean birds. *The American Naturalist* 201(5): 741-754.

4. Marroquin-Flores, RA, Williamson, JL, Chavez, AN, Bauernfeind, SM, Baumann, MJ, **Gadek, CR**, Johnson, AB, McCullough, JM, Witt, CC, and Barrow, LN. 2017. Diversity, abundance, and host relationships of avian malaria and related haemosporidians in New Mexico pine forests. *PeerJ* 5:e3700. ([link](#))
3. Barrow, LN, Bauernfeind, SM, Cruz, PA, Williamson, JL, Wiley, DL, Ford, JE, Baumann, MJ, Brady, SS, Chavez, AN, **Gadek, CR**, Galen, SC, Johnson, AB, Mapel, XM, Marroquin-Flores, RA, Martinez, TE, McCullough, JM, McLaughlin, JE, and Witt, CC. 2021. Detecting turnover among complex communities using null models: a case study with sky-island haemosporidian parasites. *Oecologia*. ([link](#))
2. **Gadek, CR**, Newsome, SD, Beckman, EJ, Chavez, AN, Galen, SC, Bautista, E, and Witt, CC. 2017. Why are tropical mountain passes “low” for some species? Genetic and stable-isotope tests for differentiation, migration and expansion in elevational generalist songbirds. *Journal of Animal Ecology*. ([link](#))
1. Adame, V, Chapapas, H, Cisneros, M, Deaton, C, Deichmann, S, **Gadek, CR**, Lovato, TL, Chechenova, MB, Guerin, P, and Richard, M. 2017. An undergraduate laboratory class using CRISPR/Cas9 technology to mutate *Drosophila* genes *Biochemistry and Molecular Biology Education*. 44:263–275. ([link](#))

## Scholarships and Grants

- 2023 Society of Systematic Biologists Graduate Student Research Award (\$3,000)
- 2021 New Mexico Ornithological Society Research Grant (\$1,000)
- 2019 Professional Development Grant, UNM GPSA (\$500)
- 2018 Research Grant, UNM Biology Graduate Student Association (\$400)
- 2018 AOS Research Grant, American Ornithological Society (\$2,500)
- 2018 WOS Research Grant, Wilson Ornithological Society (\$2,500)
- 2018 Grove Scholarship, UNM Biology Department (\$2,000)
- 2017 Research Grant, UNM BGSA (\$500)
- 2017 Professional Development Grant, UNM GPSA (\$500)
- 2017 Lynne Hertel Memorial Scholarship, UNM Biology Department (\$3,000)
- 2016 Chapman Research Grant, American Museum of Natural History (\$1,275)
- 2016 Research Grant, UNM Biology Graduate Student Association (\$400)

## Awards and Honors

- 2023 Distinguished Performance Award, Los Alamos National Laboratory
- 2022 Spot Award, Los Alamos National Laboratory
- 2018 Best Student Oral Presentation, UNM Biology 27<sup>th</sup> Annual Research Day
- 2017 Honorable Mention, National Science Foundation Graduate Research Fellowship Program
- 2016 Outstanding Undergraduate Award, UNM Biology Department

## **Non-refereed Publications**

5. Mason, NM, Gadek, CR, Stanek, JE, & Gaukler, SM. 2023. Results for Avian Monitoring at the Technical Area 36 Minie Site, Technical Area 39 Point 6, and Technical Area 16 Burn Ground at Los Alamos National Laboratory. 2023. Internal Report, Los Alamos National Laboratory.
4. Gadek, CR and Velardi, MS. Small Mammal Prey Study for the Mexican Spotted Owl at Two Locations at Los Alamos National Laboratory. 2022. Internal Report, Los Alamos National Laboratory.
3. Gadek, CR and Hathcock, C. Light-Level Geolocation of the LANL Population of Western Bluebirds. 2022. Internal Report, Los Alamos National Laboratory.
2. Gadek, CR and Velardi, MS. 2021. Results for Avian Monitoring at the Technical Area 36 Minie Site, Technical Area 39 Point 6, and Technical Area 16 Burn Ground at Los Alamos National Laboratory. 2021. Internal Report, Los Alamos National Laboratory.
1. Gadek, CR. Dynamics of Avian Elevational Ranges Reveal Hidden Evolutionary Forces. 2019. Master's Thesis, University of New Mexico.

## **Teaching Experience**

### **Teaching Assistant**

- 2019 Evolution of Human Sexuality, University of New Mexico
- 2019 Evolution of Animal Sexual Strategies, University of New Mexico
- 2019 Biology for Health-Related Sciences (High School summer session), University of New Mexico
- 2017 Guest Lecture, Ornithology (bird orientation and navigation), University of New Mexico
- 2017 Ornithology, University of New Mexico
- 2017 Biology for Health-Related Sciences, University of New Mexico
- 2016 Avian Specimen Preparation, University of New Mexico

### **Advising and Mentoring**

- 2023– Noelle Mason, postbaccalaureate student, Los Alamos National Laboratory
- 2023 Jessica Celmer, post-masters, Los Alamos National Laboratory
- 2022 Zavier Avery, undergraduate, Los Alamos National Laboratory
- 2021–2023 Makenzie Quintana, undergraduate, Los Alamos National Laboratory
- 2021–2022 Jadzia Rodriguez, postbaccalaureate student, Los Alamos National Laboratory
- 2019–2021 Trinity Casaus, undergraduate, University of New Mexico
- 2019–2020 Nora Steinberg, undergraduate, University of New Mexico
- 2019–2020 Elijah Martinez, undergraduate, University of New Mexico
- 2019 Alfredo Garcia, undergraduate, University of New Mexico
- 2018 Danica Simmons, undergraduate, University of New Mexico
- 2017 Lucero Horna, Universidad de Piura, Piura, Peru
- 2016 Malé Castro, Universidad Central de Venezuela, Caracas, Venezuela

2016

Wade Garner, Del Norte High School, Albuquerque, New Mexico

### Professional Presentations

- 2024 **Gadek, C.R.**, Bauernfeind, S., Stone, E., Goldberg, E. & Witt CC. The evolutionary history of elevational range shifts during the diversification of neotropical birds, American Ornithological Society
- 2024 **Gadek, C.R.** & Witt CC. Assessing the threat of forever chemicals to New Mexico birds, New Mexico Ornithological Society
- 2024 **Gadek, C.R.** Wildlife Safety, Los Alamos Dynamics Summer School, Los Alamos, New Mexico
- 2023 **Gadek, C.R.** Drivers of mycobiome community assemblages in Sandhill Cranes, New Mexico Ornithological Society
- 2022 **Gadek, C.R.** Careers in biology: an insider perspective, Los Alamos High School, Los Alamos, NM
- 2021 **Gadek, C.R.** Wildlife Safety, Los Alamos Dynamics Summer School, Los Alamos, New Mexico
- 2022 **Gadek, C.R.** Federal Wildlife Protections: From Initiation to Current Compliance, Los Alamos National Laboratory, Los Alamos, New Mexico
- 2021 **Gadek, C.R.** Endangered and Threatened Species Compliance, Los Alamos National Laboratory, Los Alamos, New Mexico
- 2019 **Gadek, C. R.** & Witt C.C. Dynamics of Avian Elevational Ranges Reveal Hidden Evolutionary Forces, UNM Brown Bag Seminar and Masters Thesis Defense, Albuquerque NM.
- 2018 **Gadek, C. R.\*** & Witt C.C. Evolutionary Dynamics of Elevational Ranges in Andean Birds. Genomics of Adaptation, Flathead Lake Biological Station, Polson, MT POSTER
- 2018 **Gadek, C. R.** & Witt C.C. Evolutionary Dynamics of Elevational Ranges in Andean Birds. American Ornithological Society Annual Meeting, Albuquerque, NM. (invited talk in symposium)
- 2018 **Gadek, C. R.** & Witt C.C. Evolutionary Dynamics of Elevational Ranges in Andean Birds. University of New Mexico Biology Department Research Day, Albuquerque, NM.
- 2016 **Gadek, C.R.** Broad elevational distributions: Why are mountain passes lower for some species? North American Ornithological Conference, Washington, D.C.
- 2016 **Gadek, C.R.** Why Are Elevational Generalists Rare? New Mexico Ornithological Society Annual Meeting, Albuquerque, NM.
- 2016 **Gadek, C.R.** Elevational migration and genetic divergence in songbird species in the Peruvian Andes. University of New Mexico Biology Department Research Day, Albuquerque, NM.

### Professional Service

#### Society and Institution

- 2022 IACUC secretary/committee member, LANL
- 2023 Postbaccalaureate Hiring Committee, LANL

- 2022 Undergraduate Intern Hiring Committee, LANL
- 2022 NEPA hiring committee, LANL
- 2021 Ecologist Hiring Committee, LANL
- 2020, Graduate Student Association Research Allocations Committee Co-chair, Biology Graduate Student Association, University of New Mexico
- 2018 Space Committee Chair, Biology Graduate Student Association, University of New Mexico

**Journal Reviews**

Evolution (1), BMC Evolutionary Biology (1), Heredity (1), PLOS Genetics (1), Proceedings of the Royal Society B (1), Systematic Biology (1), Nature Communications (1), Ornithology (2), Proceedings of the National Academy of Sciences (1)

**Grant Reviews**

UNM Biology Graduate Student Association Research Allocations Committee (18), UNM Graduate and Professional Student Association (6)

**OUTREACH**

- 2022– Ongoing workshop for ecological data analysis in R, LANL
- 2023 Presentation on wildlife safety, LANL
- 2022 Outreach presentation on wildlife corridors, LANL
- 2022 Presentation on migratory birds and conservation, Los Alamos Middle School
- 2022 Presentation on jobs in the biological sciences, Los Alamos High School
- 2015 Museum of Southwestern Biology Open House

**FIELD, MUSEUM, AND CONSULTING EXPERIENCE**

- 2021– Threatened and endangered species management surveys and compliance for Mexican Spotted Owl and Jemez Mountains salamander, Los Alamos National Laboratory
- 2021– Migratory bird management and banding, including Monitoring Avian Productivity and Survival (MAPS), fall bird banding, breeding and winter bird surveys, and consultation on Migratory Bird Treaty Act Regulations
- 2020 – Hunter salvage of Sandhill Cranes in collaboration with New Mexico Department of Game and Fish for research investigating vocal tract evolution
- 2014– Natural history museum specimen preparation, including preparation of >500 avian specimens for the Museum of Southwestern Biology
- 2019–2020 Project Management, Sandhill Crane migratory corridor migration modeling and consultation
- 2016–2017 Fieldwork focusing on Andean marsh bird ecophysiology, Peru
- 2014–2015 Fieldwork cataloging, organizing avian specimens, and general collection, Peru

2014–2016 Small mammal sampling and trapping for community dynamics project at Sevilleta LTER, NM

### **PROFESSIONAL TRAINING & DEVELOPMENT**

2022 Advanced bird banding course, Institute for Bird Populations, Wolf Creek, MN  
2022 Basic Wetland Delineation, Wetland Training Institute, Los Alamos, NM  
2022 Fundamentals of Institute of Animal Care and Use Committee (IACUC), Los Alamos, NM  
2022 Distance Sampling Analysis in R, online course, University of Saint Andrews, Scotland  
2021 Mexican Spotted Owl survey training, US Fish and Wildlife Service, NM  
2021 Jemez Mountain's Salamander survey training, US Fish and Wildlife Service, NM  
2017 Methods in Phylogenetics, University of New Mexico, NM

### **PROFESSIONAL MEMBERSHIPS**

American Ornithological Society, Wilson Ornithological Society, New Mexico Ornithological Society, Society of Systematic Biologists, Society for the Study of Evolution