

CARLEEN N. SILVA

Curriculum Vitae

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EDUCATION

- 2021-2026 (exp.)** **PhD, Biology**, Advisors: Dr. Kathryn Hanley & Dr. Matthew Gompper
New Mexico State University
Dissertation: Burning down the mouse: relationships between wildfire, rodent disease ecology, and host-stress in Northern New Mexico
- 2018** **BS, Biology**
Iowa State University, Ames, IA

AWARDS

- 2025** Graduate Student Travel Award
- 2024 - 2025** USDA nextGen L.E.A.D.I.N.G Award
- 2024** American Museum of Natural History Theodore Roosevelt Memorial Award
- 2023 - 2025** Joint Fire Science Program Graduate Research Innovation Award
- 2021 - 2024** National Science Foundation Graduate Research Fellowship
- 2016** Sojourners Scholarship
- 2016** School for Field Studies Diversity Scholarship
- 2014 - 2018** George Washington Carver Academy Scholarship
- 2014** College of Agriculture & Life Sciences - Dean's Scholarship
- 2014** Presidential Leadership Scholarship

RESEARCH EXPERIENCE

- Current** **PhD Candidate | New Mexico State University**
Las Cruces, New Mexico
Investigating impacts of wildfire on deer mouse population and carriage of Sin Nombre Virus in New Mexico: Sampled deer mice at the site of two fires in New Mexico, screened tissues for Sin Nombre Virus via RT-qPCR, and modeled probability of infection as a function of demographic and environmental factors
Effects of post-fire management practices on Sin Nombre Virus in deer mice: Evaluated effects of aerial re-seeding on deer mouse density and Sin Nombre Virus prevalence – *funded by the Joint Fire Science Program*
Fire effects on flea parasitism of deer mice: Quantified flea parasitism and species composition across post-fire gradients and over time to assess disturbance-driven changes on vector communities
Host-stress as a mediator of Sin Nombre Virus infection: Tested deer mice for fecal glucocorticoids via ELISA as a chronic stress indicator to elucidate impacts of corticosteroids on probability of infection
- 2021** **Predator-Prey Technician | USGS**
Las Vegas, Nevada
Trapped wild rabbits to test for Rabbit Hemorrhagic Disease Virus-2, collected movement data and assessed population dynamics through camera traps and spotlight surveys
- 2020 - 2021** **Desert Tortoise Technician | USGS**
Las Vegas, Nevada
Monitored desert tortoise populations for movement, survival, and stability
- 2019** **Lab Technician | Virginia Tech**
Blacksburg, Virginia
Lab technician for the Michael Cherry Lab at Virginia Tech

2019

Wildlife Crew Lead | Great Basin Institute

Las Vegas, Nevada

Worked as an AmeriCorps Intern through the US Forest Service in the Spring Mountain National Recreation Area (SMNRA)

PUBLICATIONS

1) **Silva, C.N.**, Twohig, F.M., Gompper, M.E., Nofchessey, R.A., Young, A.C., Bradfute, S.B., and Hanley, K.A. (2026) "Burning down the mouse: Effects of wildfire and post-fire reseeding on Sin Nombre virus prevalence in its reservoir host" [Manuscript submitted to *Ecosphere*]

TEACHING EXPERIENCE

2025

Guest Speaker – Professional Development

New Mexico State University | Las Cruces, NM

Invited to speak to graduate level biology students about how to prepare and complete graduate oral examinations

2025

Guest Lecturer – Wildlife Disease Ecology

New Mexico State University | Las Cruces, NM

Lectured on zoonotic diseases and presented a case study of Sin Nombre Virus
Led discussion section on scientific articles related to lecture topic

2025, 2023

Teaching Assistant – Biodiversity, Ecology and Evolution

New Mexico State University | Las Cruces, NM

Instructed undergraduate students in weekly Biodiversity, Ecology & Evolution laboratory course (BIOL 2610L). Lectured and directed two sections on concepts related to evolution and ecology subjects

2022

Guest Lecturer – Wildlife Ecology

New Mexico State University | Las Cruces, NM

Lectured undergraduate students on parasitism for Wildlife Ecology course. Created exam and review questions on parasitism to assess student knowledge

2017 - 2018

Lead Student Advisor & Co-Instructor

Iowa State University | Ames, IA

Facilitated and co-instructed two discussion-based courses for first-year recipients of the George Washington Carver full-tuition scholarship: University Studies 105 & 106.

MENTORSHIP

Undergraduate Students

- Josiah Martinez – Field Technician (Summer 2023)
- Kaleb Villegas – Field Technician (Summer 2024)
- Eliana Ortega – Field Technician (Summer 2024)
- Celia Lopez – Laboratory Technician (Spring 2025)
- Eva Rangel – Laboratory Technician (Summer 2025 – current)

Graduate Students

- Amaya Simoni-Walters – GRFP awardee (MS Student)

PRESENTATIONS

2025

Burning down the mouse: Fire effects on deer mouse density and prevalence of Sin Nombre Virus

USDA nextGEN LEADING Career Fair and Research Symposium

	<i>Poster Presentation</i>
2025	Burning down the mouse: Fire effects on deer mouse density and prevalence of Sin Nombre Virus Ecology and Evolution of Infectious Diseases Conference
	<i>Poster Presentation</i>
2025	Burning down the mouse: Fire effects on deer mouse density and prevalence of Sin Nombre Virus New Mexico State University Graduate Research and Arts Symposium
	<i>Oral Presentation – First Place Award</i>
2025	Burning down the mouse: Fire effects on deer mouse density and prevalence of Sin Nombre Virus New Mexico State University Biosymposium
	<i>Oral Presentation – First Place Graduate Student Oral Presentation</i>
2024	Burning down the mouse: Fire effects on deer mouse density and prevalence of Sin Nombre Virus USDA nextGEN LEADING Career Fair and Research Symposium
	<i>Oral Presentation</i>
2024	Burning down the mouse: Fire effects on deer mouse abundance and carriage of Sin Nombre Virus 4th Annual Southwest Fire Ecology Conference
	<i>Oral Presentation</i>
2024	Burning down the mouse: Fire effects on deer mouse abundance and carriage of Sin Nombre Virus Rio Grande Branch of the American Society for Microbiology Annual Meeting
	<i>Oral Presentation – Third Place Oral Presentation</i>
2023	Wildfire effects on parasitism in deer mice (<i>Peromyscus maniculatus</i>) in northern New Mexico, USA NMSU ACES Open House
	<i>Poster Presentation</i>

SERVICE

2023	Fish Wildlife and Conservation Ecology Faculty Search Committee Served on the search committee to hire an Assistant Professor of Wildlife Disease
2021 - 2022	Center for Undergraduate Research and Creative Activity Panelist Panelist for workshop for undergraduate and graduate students to demystify the National Science Foundation Graduate Research Fellowship application process