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## Education

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**Ph.D. in Biology at the University of New Mexico**

2017–2021 | Graduated with Distinction

Dissertation: *Breathing can be dangerous: Coccidioides and the diverse community of the small mammal lung mycobiome*

**M.S. in Biology at Western Illinois University**

2015–2017

Thesis: *Western Bats as a reservoir of novel Streptomyces species with antifungal activity*

**B.S. in Biology & B.A. in French with a minor in Chemistry at Western Illinois University**

2011–2017 | University Honors, Magna Cum Laude

Honors Thesis: *Isolation and identification of keratinophilic fungi in an arid grassland*

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## Professional Experience

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**Post-Doctoral Fellow** | December 2022 –

Supervisor: Dr. Daryl Domman, Center for Global Health, Department of Internal Medicine, University of New Mexico School of Medicine

**Post-Doctoral Scholar** | January 2022 – December 2022

Supervisor: Dr. Jessie Uehling, Department of Botany and Plant Pathology, Oregon State University, Corvallis, Oregon

**Graduate Researcher and Teaching Assistant (Ph.D.)** | August 2017– December 2021

Supervisor: Dr. Donald Natvig, Department of Biology, University of New Mexico, Albuquerque, New Mexico

**Visiting Graduate Researcher (Ph.D.)** | January – September 2019

Supervisor: Dr. Bridget Barker, Department of Biological Sciences, Northern Arizona University, Flagstaff, Arizona

**Graduate Researcher and Teaching Assistant (M.S.)** | August 2015 – July 2017

Supervisor: Dr. Andrea Porras-Alfaro, Department of Biological Sciences, Western Illinois University, Macomb, Illinois

**Undergraduate Researcher (B.S.)** | January 2014 – July 2015

Supervisor: Dr. Andrea Porras-Alfaro, Department of Biological Sciences, Western Illinois University, Macomb, Illinois

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## Publications

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16. Shrum Davis S, **Salazar-Hamm PS**, Edge K, Griego-Fisher A, Lugo F, Wenzel N, Malone D, Bradford C, Plymesser K, Baker M, Schwalm K, Lathrop S, Smelser C, Dinwiddie D, Domman D. Multi-drug resistant *Shigella flexneri* outbreak associated with a high-mortality spillover event into nonhuman primates. *Lancet Infectious Disease* (in review).
15. **Salazar-Hamm PS** and Torres-Cruz TJ. The impact of climate change on human fungal pathogens distribution and disease incidence. *Current Clinical Microbiology Reports* (in review).
14. **Salazar-Hamm PS**, Johnson WL, Nofchissey RA, Salazar JR, Gonzalez P, Dunnum JL, Armien B, Cook JA, Domman DB, Dinwiddie DL. Choclo virus (CHOV) recovered from deep

- metatranscriptomics of archived museum tissues. *PLOS Neglected Tropical Diseases* (in review). <https://doi.org/10.1101/2023.09.19.558559>
13. Marshall Hathaway JJ, **Salazar-Hamm PS**, Caimi NA, Natvig DO, Beucher DC, Northup DE. Do local fungal and bacterial communities shape bat microbiomes? A study of cave-roosting bats in El Malpais National Monument, New Mexico, USA. *Geomicrobiology Journal* (in review).
  12. Amses KR, Desiró A, Bryson AE, Grigoriev I, Mondo S, Lipzen A, LaButt K, Singan V, **Salazar-Hamm PS**, King J, Ballou ER, Pawlowska TE, Adeleke R, Bonito G, Uehling J. 2023. Convergent reductive evolution and host adaptation in *Mycobacterium* bacterial endosymbionts of Mortierellaceae fungi. *Fungal Genetics and Biology*, 103838. <https://doi.org/10.1016/j.fgb.2023.103838>
  11. **Salazar-Hamm PS**, Montoya KN, Montoya L, Cook K, Liphardt S, Taylor JW, Cook JA, Natvig DO. 2022. Breathing can be dangerous: Opportunistic fungal pathogens and the diverse community of the small mammal lung mycobiome. *Frontiers in Fungal Biology*, 3:996574. <https://doi.org/10.3389/ffunb.2022.996574>
  10. **Salazar-Hamm PS**, Marshall Hathaway JJ, Winter A, Caimi NA, Beucher DC, Valdez EW, Northup DE. 2022. Great diversity of KSa sequences from bat-associated microbiota suggest novel sources of uncharacterized natural products. *FEMS Microbes*, 3, 1–11. <https://doi.org/10.1093/femsmc/xtac012>
  9. Gorris ME, Van Dyke MCC, Carey A, **Hamm PS**, Mead HL, Uehling JK. 2021. A review of *Coccidioides* research, outstanding questions in the field, and contributions by women scientists. *Current Clinical Microbiology Reports*. <https://doi.org/10.1007/s40588-021-00173-9>
  8. Mead HL, **Hamm PS**, Shaffer IN, Teixeira M, Wendel C, Wiederhold NP, Thompson GR, Muñiz-Salazar R, Castañón Olivares LR, Keim PK, Terriquez J, Galgiani JN, Orbach MJ, Barker BM. 2020. Differential thermotolerance adaptation between species of *Coccidioides*. *Journal of Fungi*, 6(4), 366. <https://doi.org/10.3390/jof6040366>
  7. **Hamm PS**, Dunlap CA, Mullowney MW, Caimi NA, Valdez EW, Kellher NL, Thomson RJ, Porras-Alfaro A, Northup DE. 2020. *Streptomyces buecheriae* sp. nov., an actinomycete isolated from multiple bat species. *Antonie van Leeuwenhoek*, 113(12), 2213–2221. <https://doi.org/10.1007/s10482-020-01493-4>
  6. **Hamm PS**, Taylor JW, Cook JA, Natvig DO. 2020. Decades-old studies of fungi associated with small-mammal lungs and modern DNA sequencing approaches help define the nature of the lung mycobiome. *PLOS Pathogens*, 16(7), e1008684. <https://doi.org/10.1371/journal.ppat.1008684>
  5. **Hamm PS**, Mueller RC, Kuske CR, Porras-Alfaro A. 2020. Keratinophilic fungi: specialized fungal communities in a desert ecosystem identified using cultured-based and Illumina sequencing approaches. *Microbiological Research*, 239, 126530. <https://doi.org/10.1016/j.micres.2020.126530>
  4. **Hamm PS**, Hutchinson MI, Leonard P, Melman S, Natvig DO. 2019. First analysis of human *Coccidioides* isolates from New Mexico and the Southwest Four Corners Region: Implications for the distributions of *C. posadasii* and *C. immitis* and human groups at risk. *Journal of Fungi*, 5(3), 74. <https://doi.org/10.3390/jof5030074>
  3. **Hamm PS**, Cami NA, Northup DE, Valdez EW, Buecher DC, Dunlap CA, Labeda DP, Porras-Alfaro A. 2019. *Streptomyces corynorhini* sp. nov., isolated from Townsend's big-eared bats (*Corynorhinus townsendii*). *Antonie van Leeuwenhoek*, 112, 1297–1305. <https://doi.org/10.1007/s10482-019-01261-z>
  2. **Hamm PS**, Cami NA, Northup DE, Valdez EW, Buecher DC, Dunlap CA, Labeda DP, Lueschow S, Porras-Alfaro A. 2017. Western bats as reservoirs of novel *Streptomyces* species with antifungal activity. *Applied and Environmental Microbiology*, 83(5), e03057–16. <https://doi.org/10.1128/AEM.03057-16>
  1. Porras-Alfaro A, Muniania-Nninga C, **Hamm PS**, Torres-Cruz TJ, Kuske CL. 2017. Fungal diversity, community structure and their functional roles in desert soils. In: Steven, B (ed). *The Biology of Arid Soils*. DeGruyter. Germany.

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## Funding

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### Pending Funding

75D301-23-R-72545 (Domman, PI) Salazar-Hamm, Co-I \$1,161,496 total

Centers for Disease Control

*Unifying genomic and epidemiological data for understanding diarrheal disease*

BIO-BRC (Caesar, PI) Salazar-Hamm, Co-PI \$483,332 total

National Sciences Foundation

*Multi-omics guided discovery of natural products from the cave and bat microbiome using ecologically inspired synthetic communities*

### Research Funding (TO DATE: \$13,050)

American Ornithological Society Research Award (\$1,000)	2021
Mycological Society of America Graduate Research Award (\$2,000)	2021
New Mexico Ornithological Society Student Research Award (\$1,000)	2021
UNM Graduate and Professional Student Association Research Grants (\$5,500)	2017–2021
UNM Graduate Resources Allocations Committee Research Awards (\$1,600)	2018–2021
Mycological Society of America John Rippon Research Award (\$1,000)	2019–2020
WIU Centennial Honors College Biology Research Grants (\$650)	2014–2015
WIU College of Arts and Sciences Research Grant (\$700)	2014

### Conference Travel Funding (TO DATE: \$5,328)

Mycological Society of America Speaker Award (\$1,200)	2023
Journal of Fungi Ph.D. Candidate Travel Award (800 CHF/\$828)	2020
UNM Graduate Resources Allocations Committee Travel Award (\$450)	2019–2020
Mycological Society of America Mentor Student Travel Award (\$750)	2019
International Mycological Congress Travel Award (\$500)	2018
Mycological Society of America Mentor Student Travel Award (\$500)	2016
WIU Women in STEM Travel Award (\$200)	2015
WIU Margaret & Cecilia Wong Travel Award (\$900)	2015

### Scholarships and Fellowships (TO DATE: \$39,375)

UNM Joseph Gaudin Biology Department Scholarship (\$4,500)	2018–2021
Sevilleta Summer Graduate Student Fellowship (\$4,000)	2018
WIU Women in STEM Research and Scholarly Activities Scholarship (\$800)	2015–2016
WIU Paul Nollen Biology Department Honors Scholarship (\$875)	2015
WIU Research Inspiring Student Excellence Summer REU Award (\$3,000)	2015
WIU Vivian D. Kline Foreign Language Department Scholarship (\$8,000)	2013–2014
WIU Centennial Honors College Scholarship (\$600)	2012
WIU Civil Service Scholarship (\$1000)	2012
WIU Honors Foundation Scholarship (\$12,000)	2012
WIU Legacy of Leadership Scholarship (\$3,000)	2011–2013
Edward A. Mellinger Scholarship (\$3,600)	2011–2013

### Honors and Awards (TO DATE: \$2,700)

Medical Mycology Society of America Milton Huppert Award (\$500)	2020
WIU RISE Margaret and Cecilia Wong Bridge to Graduate School Award (\$350)	2016
Best Oral Presentation, Phi Sigma Symposium, Illinois State University (\$300)	2016
Research Inspiring Student Excellence (RISE) Award	2015–2016
WIU Gordon A. Taylor Student Leadership Award	2015

Second Runner-up WIU Student Employee of the Year (\$250)	2015
Best Poster, Mycological Society of America, Michigan State University (\$100)	2014
WIU Martin Dupuis Mukti Leadership Award for LGBTQ+ (\$1,200)	2014
<b>Outreach Funding (TO DATE: \$4,000)</b>	
Stuntz Mycology Fund Institutional Grant for Educational Outreach (\$4,000)	2022

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## Teaching Experience

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### Lecture Courses

Population Genetics (BDS477/577), Guest Lecturer, Oregon State University	2022
Infectious Disease Epidemiology (PH528), Guest Lecturer, UNM-Health Sci Center	2021

### Laboratory Courses

Fungal Biology (BIOL484/584), Teaching Assistant, UNM-Main	2020–2021
• Two semesters, 24 students/semester	
Microbiology for Health Sciences (MICRO2305), Teaching Assistant, UNM-Main	2017–2021
• Five semesters, 24 students/section, three sections/semester	
Molecular Techniques (BIOL446/546), Teaching Assistant, UNM-Main	2019
• One semester, 24 students/semester	
Genetics (BIOL2410), Teaching Assistant, UNM-Main	2017
• One semester, 24 students/section, two sections/semester	
Human Anatomy & Physiology (ZOOL330), Teaching Assistant, WIU	2015–2016
• Two semesters, 24 students/section, two sections/semester	
Genetics & Evolutionary Biology (BIOL340), Teaching Assistant, WIU	2015
• One semester, 24 students/semester	

### Mentorship

Research mentor for graduate student, University of New Mexico	2023–
• Resulted in first author publication for student	
Research mentor for one graduate student, Oregon State University	2022
Research mentor for one undergraduate student, Oregon State University	2022
• Student subsequently went on to graduate school	
Research mentor for two undergraduate students, University of New Mexico	2019–2021
• Resulted in co-authorship for student	
• Student subsequently received NSF Graduate Research Fellowship and NSF Museum Research Traineeship	
Research mentor for one undergraduate student, Western Illinois University	2016–2017
• Student subsequently went on to graduate school	

### Community Involvement

Meet a Scientist	2017–2023
• Myers Elementary School, Salem, Oregon, First-grade (one classroom)	
• North Scott Elementary School, Eldridge, Iowa, Kindergarten (three classrooms)	
• Apache Elementary School, Albuquerque, New Mexico, 1 <sup>st</sup> grade (one classroom)	
• Madison Elementary School, Davenport, Iowa, 1 <sup>st</sup> grade (one classroom)	
Science Fair Judge, Rio Ranch Public Schools, Rio Rancho, New Mexico	2020

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## Field Experience

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I have experience in specimen collection and preparation of small mammals (orders: Chiroptera, Rodentia, Eulipotyphla, and Lagomorpha). To date, I have collected 281 domestic specimens and aided in preparation of 74 of those cataloged at the Museum of Southwestern. I have provided sequence data

for host taxa confirmation and microbiome studies (GenBank SRA, Genome, and Nucleotide) for 185 museum specimens.

Cibola National Forest, Sierra County, New Mexico (Joseph Cook, PI)	Oct 27–28 2018
El Malpais National Conservation Area, Cibola County, New Mexico (Joseph Cook, PI)	Sept 28–30, 2018
Santa Fe National Forest, San Miguel County, New Mexico (Joseph Cook, PI)	Sept 7–9, 2018
Gila National Forest, Dona Ana & Luna Counties, New Mexico (Katrina Derieg, PI)	June 18–21, 2018

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## Invited Seminars

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<b>Salazar-Hamm PS.</b> <i>Wildlife surveillance.</i> Impact and Control of Valley Fever Workshop. National Academies of Sciences, Engineering, and Medicine. Irvine, California. November 17-18, 2022.	2022
<b>Salazar-Hamm PS.</b> <i>Using museum specimens to study Coccidioides and other opportunistic lung pathogens in small mammals.</i> Southwest One Health Symposium. TGen Research Institute. November 16-17, 2022. [Virtual presentation]	2022
<b>Hamm PS, Caimi NA, Northup DE, Valdez E, Buecher DC, Porras-Alfaro A.</b> <i>Actinobacteria: the avengers of the white-nose syndrome threat.</i> Research Inspiring Student Excellence Seminar, Western Illinois University, October 7, 2015.	2015
<b>Hamm PS, Belnap J, Kuske CR, Porras-Alfaro A.</b> <i>Keratinophilic fungal research, Mycological Society of America, and future endeavors.</i> Library Lecture Series, Western Illinois University, November 5, 2014.	2014

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## Select Presentations

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<b>Salazar-Hamm PS, Cook J, Taylor J, Barker B, Mead H, Natvig D.</b> <i>Surveillance of fungal pathogens in the lungs of wild small mammals.</i> Mycological Society of America Conference. Flagstaff, Arizona. July 31–August 2, 2023. [Oral presentation].	2023
<b>Hamm PS, Montoya K, Taylor J, Liphardt S, Cook JA, Natvig D.</b> <i>Lung tissues from wild Southwestern rodents help in understanding the geographic distribution and disease ecology of Coccidioides and other Onygenales.</i> Mycological Society of America Virtual Conference. July 19–23, 2021. [Oral presentation].	2021
<b>Hamm PS, Hutchinson MI, Natvig DO.</b> <i>Expanding the molecular detection toolkit for Coccidioides by documenting genetic variation from patients treated in New Mexico and testing environmental samples.</i> Mycological Society of America Conference. Minneapolis, Minnesota. August 10–15, 2019. [Poster presentation].	2019
<b>Hamm PS, Hutchinson MI, Melman S, Natvig DO.</b> <i>Exploring possible ecological niches for Coccidioides species endemic in New Mexico.</i> Coccidioides Study Group Meeting. Northern Arizona University. Flagstaff, Arizona. April 14–15, 2018 [Poster presentation]	2018
<b>Hamm PS, Lueschow S, Winter A, Nicole Caimi NA, Northup DE, Valdez E, Buecher DC, Dunlap C, Labeda DP, Porras-Alfaro A.</b> <i>Microbial communities associated with bats and the discovery of novel isolates with antifungal activity against Pseudogymnoascus destructans.</i> Fungal Genetics. Asilomar Conference Center Pacific Grove, California, March 14–19, 2017. [Oral presentation].	2017
<b>Hamm PS, Ojha S, Dunbar JM, Kuske CR, Porras-Alfaro A.</b> <i>The role of rhizosphere and endophytic fungal volatiles on plant growth.</i> Mycological Society of America Conference. Athens, Georgia. July 16–19, 2017. [Poster presentation]	2017

<b>Hamm PS</b> , Caimi NA, Northup DE, Valdez E, Buecher DC, Dunlap C, Labeda DP, Lueschow S, Porras-Alfaro A. <i>Antifungal activity of Western bat biota against White-nose syndrome</i> . Mycological Society of America Conference. University of California, Berkeley, August 7–11, 2016. [Oral presentation].	2016
<b>Hamm PS</b> , Caimi NA, Northup DE, Valdez E, Buecher DC, Porras-Alfaro A. <i>Natural biota of western bats may combat the spread of white-nose syndrome</i> . Illinois State University Phi Sigma Biological Science Research Symposium. Normal, Illinois, February 19, 2016. [Oral presentation].	2016
<b>Hamm PS</b> , Mueller RC, Belnap J, Kuske CR, Porras-Alfaro A. <i>Keratinophilic fungi: Diversity and abundance in an arid grassland in Utah</i> . Illinois State Academy of Science Annual Meeting. April 10–11, 2015. [Oral presentation].	2015
<b>Hamm PS</b> , Mueller RC, Belnap J, Kuske CR, Porras-Alfaro A. <i>Isolation and identification of keratinophilic fungi in arid lands</i> . Mycological Society of America Conference. Edmonton, Alberta, Canada, July 25–29, 2015. [Poster presentation].	2015
<b>Hamm P.S.</b> , Belnap J., Kuske C.R., Porras-Alfaro A. <i>Study of seasonal variation of desert keratinophilic fungi</i> . Mycological Society of America Conference. East Lansing, Michigan, June 8–12, 2014. [Poster presentation].	2014
<b>Hamm P.S.</b> , Belnap J., Kuske C.R., Porras-Alfaro A. <i>Diversity and abundance of keratinophilic fungi in arid lands Utah</i> . Argonne National Laboratory Undergraduate Symposium. Argonne National Lab, November 7, 2014. [Oral presentation].	2014

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## Leadership and Professional Activities

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### Mycological Society of America

- Panelist, Graduate School Panel for the Student Section 2021
- Moderator, Mycology: Human and Animal Pathogens, Botanical Society of America/Mycological Society of America Conference 2021
- Student Representative, Endowment Committee 2017–2020
- Student Representative, Membership Committee 2016–2017

### Peer-review for academic journals

Appl Environ Microbiol, Microbiol Spectr, mShere, Mycologia, 3Biotech, J Appl Pharm Sci, ISME Commun, R Soc Open Sci

### Grant Reviewer

- *Coccidioides* Study Group Abstract Reviewer 2023
- National Science Foundation Reviewer 2023
- Biology Graduate Allocation Committee, University of New Mexico 2018–2020
- Graduate Professional Student Association, University of New Mexico 2018

### Duke City Roller Derby, Albuquerque, New Mexico

- General Manager 2019–2020
- Human Resource Manager 2018–2019

### Western Illinois University, Macomb, Illinois

- Vice President, Women in Science, Vice President 2015–2016
- Student Representative, Grade Appeals/Academic Integrity Committee 2014–2015
- President, Unity LGBTQ+ Organization 2013–2015
- Student Representative, Centennial Honors College Honors Council 2012–2013

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## Language Skills

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French – fluent in reading, writing, and speech