

Isabella Hamner

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EDUCATION

Colorado State University

B.S. Biomedical Sciences of Microbiology and Infectious Disease
Fort Collins, CO | Honors Student | Minor in Agricultural Literacy

EXPECTED MAY 2027

GPA: 4.00/4.00

LABRATORY & RESEARCH EXPERIENCE

Undergraduate Research Assistant

AUGUST 2024 - PRESENT

Fedorka Lab, Colorado State University

- Collected reproductive and histologic data for a PPID–endometrium study, completed RNA isolation, and co-authored the published manuscript reporting these findings.
- Presented PPID research findings at the the Rocky Mountain Reproduction Symposium, the international Equine Science Society Symposium, and multiple CSU research showcases.
- Supported study execution for a resveratrol supplementation trial by managing mares, collecting reproductive samples, and processing tissues for RNA isolation, contributing to the publication of Denison et al., 2026.
- Conducted sample collection, study maintenance, and laboratory processing for a PEMF therapy study on PBIE, presenting preliminary results at CVMBS Research Day and contributing to a manuscript in preparation.

Undergraduate Summer Researcher

JUNE 2026 - PRESENT

Sones Lab, Colorado State University

- Performed equine conceptus flushing and dissection procedures to support reproductive research.
- Gained hands-on experience in mouse handling and standard research procedures.
- Performed DNA isolation and gel electrophoresis techniques for molecular analysis and genotyping.

AgNext Research Intern

MAY 2025-PRESENT

AgNext Research Collaborative, Colorado State University

- Managed cattle, collected emissions data, and performed statistical analysis for a methane-mitigation study using oxygenated water, contributing to a manuscript in preparation.
- Completed full data analysis and epidemiologic modeling for a BVD-spread study in local dairies, producing insights that direct ongoing data collection and manuscript development.
- Presented preliminary BVD epidemiologic findings to corporate AgNext partners, translating analytical outputs into actionable takeaways for industry stakeholders.
- Collected LCA variables and co-authored sections for a national cradle-to-grave dairy greenhouse-gas assessment scheduled for publication this year.

Colorado State University CURE Lab

MAY 2025 - AUGUST 2025

Summer Researcher

- Designed and executed an independent study on violacein's antibacterial effects against *P. aeruginosa* and *S. aureus*, generating data for future publication.
- Developed experimental methods for bacterial culture, pigment extraction, and antimicrobial testing.
- Performed RNA and bacterial isolation, and extracted violacein from *J. lividum* for assay preparation.
- Conducted antibacterial assays and data analysis, producing preliminary results supporting ongoing research goals.

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PUBLICATIONS

Denison, G., Funes, J., Razquin, P., Howard, J., **Hamner, I.**, Foulk, L., Burden, C., Hatzel, J.N., Sones, J.L., McCue, P.M., & Fedorka, C.E. (2026). Resveratrol supplementation improves uterine immune resolution in mares susceptible to persistent breeding-induced endometritis. *Frontiers in Veterinary Science*, 13, 1760273. <https://doi.org/10.3389/fvets.2026.1760273>.

Hamner, I.*, Howard, J.*, Crook, R.A., Coleman, S.J., Klinglesmith, B.A., McCue, P.M., & Fedorka, C.E. (2026). Impact of pituitary pars intermedia dysfunction (PPID) on the equine endometrium. *Frontiers in Veterinary Science*, 13, 1758501. <https://doi.org/10.3389/fvets.2026.1758501>

Hamner, I., Denison, G., Funes, J., Foulk, L., Howard, J., Razquin, P., McCue, P.M., & Fedorka, C.E. (2026). PEMF therapy mitigates endometrial inflammation associated with persistent breeding-induced endometritis in horses. Manuscript in preparation.

Campos, L.M., Fantini, C.C., Rotz, A., **Hamner, I.**, & Thoma, G. (2026). Update on greenhouse gas emissions from milk production and consumption in the United States: A cradle-to-grave life cycle assessment. Manuscript in preparation.

Hamner, I., Ingle, W., & McGrew, A. (2026). Large-scale model of parasite diagnostic protocols for use in outreach and parasite literacy initiatives. Manuscript in preparation.

PRESENTATIONS

- 6-3-2026, Epidemiological investigation of Bovine Viral Diarrhea Transmission in a Dairy Herd. 2026 AgNext Research Summit, Fort Collins, CO. (*Poster Presentation*)
- 5-8-2026, PEMF therapy mitigates endometrial inflammation associated with persistent breeding-induced endometritis in the mare. Rocky Mountain Reproductive Sciences Symposium, Fort Collins, CO. (*Poster Presentation*)
- 4-25-2026, Large-scale teaching models illustrating concepts in diagnostic veterinary parasitology for use in outreach and community-engaged learning. Rocky Mountain Branch of the American Society of Microbiology Annual Spring Conference, Denver, CO. (*Oral Presentation*)
- 4-21-2026, Pulsed Electromagnetic Frequency (PEMF) Therapy Mitigates Endometrial Inflammation Associated with PBIE. Celebrate Undergraduate Research and Creativity (CURC) Showcase, Fort Collins, CO. (*Oral Presentation*)
- 4-14-2026, From Inflammation to Innovation: Using Magnawave to Treat Inflammation in the Equine Uterus. CSU Demo Day, Fort Collins, CO. (*Poster Presentation*)
- Research Showcase
- 1-29-2026, Understanding pituitary pars intermedia dysfunction: Impact on broodmares and beyond. Greeley Farm Show, Greeley, CO. (*Oral Presentation*)
- 1-24-2026, PEMF therapy mitigates endometrial inflammation associated with persistent breeding-induced endometritis in the mare. College of Veterinary Medicine and Biomedical Sciences Research Day, Fort Collins, CO. (*Poster Presentation*)

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PRESENTATIONS

- 10-15-2025, PEMF therapy mitigates endometrial inflammation associated with persistent breeding-induced endometritis in the mare. Neuroscience Student Organization Undergraduate Research Poster Event, Fort Collins, CO. (*Poster Presentation*)
- 6-12-2025, Impact of pituitary pars intermedia dysfunction (PPID) on equine endometrosis. AgNext Research Summit 2025, Fort Collins, CO. (*Poster Presentation*)
- 6-6-2025, Investigation into the association between endometrosis and pituitary pars intermedia dysfunction (PPID). Equine Science Society 2025 Symposium, Fort Collins, CO. (*Oral Presentation*)
- 5-9-2025, Impact of pituitary pars intermedia dysfunction (PPID) on the equine endometrium. Rocky Mountain Reproductive Sciences Symposium, Fort Collins, CO. (*Poster Presentation*)
- 4-25-2025, Impact of pituitary pars intermedia dysfunction on the equine endometrium: An investigation into the association between fibrosis and endometrosis. CSU Equine Sciences Research Showcase, Fort Collins, CO.
- 4-17-2025, Educate, Create, and Connect in Ag Literacy. Celebrate Undergraduate Research and Creativity Showcase, Fort Collins, CO. (*Poster Presentation*)
- 4-17-2025, Impact of pituitary pars intermedia dysfunction on the equine endometrium: An investigation into the association between fibrosis and endometrosis. Celebrate Undergraduate Research and Creativity Showcase, Fort Collins, CO. (*Oral Presentation*)

HONORS AND AWARDS

- 2026, Barry Goldwater Scholarship and Excellence in Education Scholar
- 2026, 1st Place Undergraduate Poster at the 2026 AgNext Research Summit Student Poster Competition
- 2026, Fall Dean's List, College of Veterinary Medicine and Biomedical Sciences, Fort Collins, CO
- 2026, 2nd Place Undergraduate Oral Presentation at the Rocky Mountain Branch of the American Society for Microbiology Spring Meeting, Denver, CO
- 2026, 1st Place Undergraduate Presentation at the Colorado State University Equine Research Showcase, Fort Collins, CO
- 2026, Recipient of the Dave Hanlon Research Award at the Colorado State University Equine Research Showcase, Fort Collins, CO
- 2026, 1st Place Undergraduate Poster in Veterinary Clinical Research Awarded at CVMBS Research Day, Fort Collins, CO
- 2025, Best Presentation Awarded at Neuroscience Student Organization Undergraduate Research Poster Event, Fort Collins, CO
- 2025, Spring Dean's List, College of Veterinary Medicine and Biomedical Sciences, Fort Collins, CO
- 2025, First cohort of the National Security Scholars Program by the Front Range Consortium
- 2025, 1st Place Undergraduate Oral Presentation Awarded at the Equine Science Society 2025 Symposium, Fort Collins, CO
- 2025, 2nd Place Oral Presentation at the 2025 Colorado State University Equine Sciences Research Showcase, Fort Collins, CO
- 2024, Fall Dean's List, College of Veterinary Medicine and Biomedical Sciences, Fort Collins, CO

LEADERSHIP

Front Range Consortium

AUGUST 2025 - PRESENT

First Cohort of National Security Scholars Program

- Selected for a competitive, year-long national security scholars program focused on policy, defense, and workforce readiness
- Participated in immersive site visits to NORAD, USNORTHCOM, the Pentagon, Capitol Hill, and the U.S. State Department
- Authored an in-progress policy analysis on public health and national security for submission and publication in the Air Force Academy's *Future Conflict*.

Colorado State University Pre-Veterinary Club

AUGUST 2024-PRESENT

2025-2026 Activities Coordinator

- Plan and execute 5+ events per semester for 200+ Pre-Vet Club members, managing a \$1,000+ budget.
- Coordinate tours and informational sessions by communicating with local businesses, veterinary clinics, and CSU faculty.
- Oversee event logistics and member engagement to maintain consistent participation across all programming.

College of Veterinary Medicine & Biomedical Sciences Advancement

APRIL 2025- PRESENT

Corporate & Foundation Relations Intern

- Support advancement staff in fundraising efforts toward the division's \$160M goal, assisting with donor engagement and stewardship.
- Facilitate communication between fundraisers and donors through contact reporting, postal mailings, and management of follow-up administrative processes.
- Maintain organized donor records and workflow systems to strengthen relationship management and enhance fundraising efficiency.

Colorado State University Honors Program

MARCH 2025- PRESENT

Track 2 Honors Ambassador

- Represent nearly 2,000 Honors Program students by presenting the Honors story to prospective families, current CSU students, and campus partners.
- Conduct my Honors thesis delivering parasite education to local veterinary communities, with project completion currently in progress.

Colorado State Extension Intern

MAY 2024 - SEPTEMBER 2024

CAMs Ag Academy Educator | Larimer County Extension Intern

- Delivered agricultural literacy programming through CAM's On the Road, engaging diverse Colorado communities at state fairs to promote animal health, biosecurity, and the agriculture sector's role in national food security.
- Designed and implemented educational modules—utilized statewide—emphasizing proper animal handling, informed consumer choices, and the critical importance of agriculture in supporting resilient, safe food systems.

National FFA Organization

AUGUST 2020 - MAY 2024

Missouri FFA Association State Vice President | LCTC FFA Chapter President

- Represented 26,000+ FFA members statewide, promoting sustainable agriculture, biosecurity, and food-system awareness.
- Delivered keynote speeches, workshops, and educational programs on agriculture, leadership, and public health.

AWARDS, HONORS, & CERTIFICATIONS

2025 Equine Science Society Symposium | JUNE 2025

1st Place Undergraduate Oral Presentation

2025 CSU Equine Sciences Research Showcase | APRIL 2025

2nd Place Overall Oral Presentation

CSU College of Veterinary Medicine and Biomedical Sciences

Fall 2024 and Spring 2025 Dean's List

Beef Quality Assurance Certification

Cow/Calf Operation Certification

Animal Care and Use (IACUC) Training

Completed IACUC Training for Colorado State University handling

Hazardous Waste Training

Completed Hazardous Waste Training for Colorado State University applications

Rocky Mountain Reproductive Sciences Symposium | MAY 2025

Undergraduate Poster Presenter

Neuroscience Student Organization Showcase | OCTOBER 2025

Undergraduate Poster Presenter