

Denita M. Weeks

Associate Professor

Colorado Mesa University
Department of Biological Sciences
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EDUCATION

Ph.D. Biology • The University of Memphis • 2018
Dissertation: **Potential Mitigation of *Chytridiomycosis* with
Biopesticides: A natural, unexplored strategy**
Advisor: Dr. Matthew J. Parris

M.S. Biology • California State University, Northridge (CSUN) • 2013
Thesis: **Comparative Thermal Tolerances, Performance Eurythermy,
and Energy Budgets of the World's Southernmost Gecko with
Implications for Changing Climate**
Advisor: Dr. Robert E. Espinoza

B.S. Biology (Animal Emphasis) • Grand Valley State University, Allendale, MI • 2008

TEACHING EXPERIENCE

Colorado Mesa University (CMU)

Biol 250: Microbiology Lecture & Lab
Biol 105: Attributes of Living Systems Lecture & Lab (Biology for Majors)
Biol 441: Endocrinology Lecture
Milestone: Microbes & The Human Body (co-instructor)
Virology (16-week course online)
Human & Wildlife Virology (4-week course online)
Biol 101: General Human Biology Lecture (Biology for Non-Majors)
Human & Wildlife Virology (4-week course in-person)
Biol 209L: Anatomy & Physiology Lab

University of Utah & Ensign Global College

2022 Ecology & Evolution of Human Disease (2-week intensive course)
Integrated Minor in Health—Summer Program in Ghana

CONTINUING EDUCATION & CERTIFICATIONS

ASIST (Applied Suicide Intervention Skills Training) Workshop • CMU • 2023

Online Teaching Essentials (OTE) Course Completion • CMU • 2020

Ranaviruses: Emerging Pathogens of Ectothermic Vertebrates • 69 credit hours
Global Ranavirus Consortium, Inc. • The University of Tennessee-Knoxville • 2016

PROFESSIONAL & COMMUNITY SERVICE

Colorado Mesa University

Committee Standings

- ◆ Pre-Tenure Committee • 2024-current
- ◆ Faculty Salary & Benefits Committee • 2024
 - Participated in Faculty Senate Charge for Instructor Promotion System Proposal

- ◆ HLC Criterion 4 Committee for Accreditation • 2022-23
 - Attended HLC Accreditation Visit October 2023

- ◆ Assessment
 - Created Biology assignments for Ethics Across the Disciplines D2L Shell
 - Campus Assessment Committee
 - Chair • 2020-21
 - Vice Chair • 2019-20, 21-22
 - Member • 2018
 - Interview for Ethics Across the Disciplines SLO D2L Shell
 - Assessment Days: Reviewed ESSL artifacts for ESSL Assessment Data • 2021-23
 - Essential Learning Assessment Working Group • 2020-24

Campus Outreach

- ◆ Commencement Marshal • Spring 2023 Graduation
- ◆ Sustainability Council Presentation • *Climate Change and Disease* • 2023
- ◆ Mycology Guest Lecture • *Chytrid fungus and amphibians* • 2021 & 2023
- ◆ CMU Scholars Day Volunteer • Spring 2023
- ◆ Seminar: Natural Resources of the West (ENVS department at CMU) • 2022
- ◆ Faculty Talk! at CMU library: *Boreal Toads* • 2022
- ◆ Criterion Article Interview • 2021
- ◆ CMU Maverick magazine interview: Boreal Toad Research & CMU student involvement • 2020

- ◆ CMU Student Showcase
 - Committee member—Biology Department Representative • 2020
 - Poster Judge • 2020

Department

- ◆ Coordinator of Biol 250L • Fall 2019-current
- ◆ Biol 105 Working Group Chair • Fall 2023-current
- ◆ Tenure-Track Search Committee • Fall 2023, Fall 2024
- ◆ Instructure Search Committee • Spring 2023
- ◆ Biology Assessment Point Person: Collect Data, Q&A • 2022-present

Community Service

- ◆ Bullfrogs for Beers: Community-driven Science & Conservation • Founder & Scientist • 2021-present
- ◆ Colorado Canyons Association webinar: Community-driven science on the western slope • 2023
- ◆ Problem Based Learning Presentation for Pomona Elementary 4th Grade • 2022
 - Judge for final 4th grade PBL solutions • 2022
- ◆ Girl Scouts Bullfrog Education & Collection Event • 2022
- ◆ Audubon Society Presentation about invasive American Bullfrogs in the West • 2022
- ◆ *FrogWatch USA*, GJ Chapter, Co-coordinator, Co-founder, Mentor • 2021-22
- ◆ Seminar for Eureka! Girls Inspire Summer Camp on amphibians • 2020 & 2021
- ◆ *FrogWatch USA*, Memphis Ch., Co-coordinator • Wolf River Conservancy • 2014-2016
- ◆ *Tennessee Academy of Sciences* Oral Presentation Judge • The Univ. of Memphis • 2015

Scientific Community

- ◆ Editor for *Frontiers in Microbiology* • Fall 2022-present
- ◆ Judge for Student E.E. Williams Grant Proposals for Herpetologists' League • 2022
- ◆ Judge for Student Posters for SSAR Hutchison Poster Award, JMIH, Phoenix, AZ • 2021
- ◆ Voluntarily treated ~140 state-endangered Boreal Toads at CMU for a fungal disease to prevent euthanasia. Toads cured of the fungus were released into the wild • 2020
- ◆ Peer-reviewer of manuscripts for:
 - *Hydrobiologia* • 2022
 - *FEMS Microbiology Ecology* • 2022
 - *ISME Journal* • 2021
 - *Herpetological Review* • 2020
 - Review of English language for *Scientific Reports* article • 2020
 - *Environmental Toxicology & Chemistry* • 2020
 - *Biocontrol Science & Technology* • 2019
- ◆ *JMIH* Session Moderator • Austin, TX • 2017

MEDIA OUTREACH

- ◆ GJ Sentinel Article: Hopping to It • 2024
- ◆ Colorado Public Radio Postcard: Boreal Toads • 2022
- ◆ KAFM Radio interview about undergraduate research in my lab at CMU • 2020

RELEVANT PROFESSIONAL AFFILIATIONS

- ◆ *Frontiers in Microbiology* • Fall 2022-present
- ◆ Boreal Toad Conservation Team • 2020-present

- ◆ FrogWatchUSA • 2014-2016, 2021-2022
- ◆ American Society of Ichthyologists and Herpetologists • 2010-2017, 2021-2022
- ◆ Herpetologists League • 2010-2017, 2021-2022
- ◆ Society for the Study of Amphibians and Reptiles • 2010-2017
- ◆ Ronald E. McNair Scholar Program • 2005-present

AWARDS & HONORS (*Partial list— last 10 years only*)

- ◆ Early Career Distinguished Faculty Award • 2023
- ◆ Early Career Distinguished Faculty Award Nomination • 2022
- ◆ CMU Exemplary Faculty Award • 2019-2020
 - Nominated for Exemplary Award by my department 2019-2021
- ◆ Mack I. Johnson Memorial Research Award for Outstanding Graduate Student, California State University-Northridge (\$2000) • 2014
- ◆ University of Memphis Society Doctoral Fellowship, The University of Memphis (\$1770) • 2014
- ◆ Van Vleet Memorial Doctoral Award, The University of Memphis (\$16000) • 2013

SELECTED GRANTS (a = internal funding; b = external funding) (*Partial List*)

- ◆ Faculty Professional Development Funds • CMU (**\$2,742**)^a • 2023
- ◆ BioSinq Fund Travel Request • CMU (**\$1500**)^a • 2023
- ◆ BioSinq Fund Travel Request • CMU (**\$1500**)^a • 2022
- ◆ BioSinq Fund Equipment Request • CMU (**\$1480**)^a • 2022
- ◆ Faculty Professional Development Funds • CMU (**\$2,660**)^a • 2022
- ◆ Monitoring the amphibians of McInnis Canyon National Conservation Area including the presence of invasive Bullfrogs and the pathogenic fungus *Batrachochytrium dendrobatidis* (primary investigator) • Bureau of Land Management Cooperative Agreement (**\$25,000**)^b • 2021
- ◆ Faculty Professional Development Funds (co-awarded with Dr. Lavelle) (**\$3,000**)^a • CMU • 2021
- ◆ BioSinq Fund Equipment Request (co-awarded with Amanda Lavelle) (**\$4200**)^a • CMU • 2021
- ◆ Colorado Partners for Amphibian & Reptile Conservation (COPARC) Mini-grant (**\$200**)^b • 2021
- ◆ BioSinq Fund • CMU (**\$1,413**)^a • 2020
- ◆ Monitoring the amphibians of McInnis Canyon National Conservation Area including the presence of invasive Bullfrogs and the pathogenic fungus *Batrachochytrium dendrobatidis* (primary investigator) • Bureau of Land Management Cooperative Agreement (**\$25,000**)^b • 2020
- ◆ BioSinq Equipment Fund (co-awarded with Drs. Varner & Sherbenou) • CMU (**\$11,097**)^a • 2020
- ◆ BioSinq Fund • CMU (**\$949**)^a • 2020

- ◆ Survey of the amphibians of McInnis Canyon National Conservation Area and the presence of the pathogenic fungus *Batrachochytrium dendrobatidis* (co-investigator) • US Geological Survey Cooperative Agreement (**\$33,298**)^b • 2019
- ◆ BioSinq Fund • CMU (**\$1,204**)^a • 2019
- ◆ Faculty Professional Development Fund (co-awarded with Dr. Hampton)^a • CMU • 2018

STUDENT MENTORED RESEARCH

2024 Taylor Schmitz

- ◆ CMU Student Intern mentorship for DNA team as part of X-Prize Raionforest Finals Competition in Manaus, Brazil July 2024.

2023 Jacee Lawrence

- ◆ Saccomanno Internship Program in Biological Research (SIPBR) Intern for Academic Year 2023-24. Completing library preparation for microbiological sequencing of Boreal Toad fungi to complete a project started by a previous CMU intern.

Gregory Ghan

Samantha Hamilton

Jered Woody

- ◆ May-August 2023: Mentored students to survey amphibians for the pathogenic fungus *Batrachochytrium dendrobatidis* and analyze samples using quantitative PCR. They also assisted with invasive species removal at citizen science events.

2022 Jacee Lawrence

Raven Patrick

- ◆ October 2022-May 2023: Mentored and facilitated March 2023 research trip to Ecuador in support of CMU sponsorship of XPrize Rainforest: Team Waponi

Raven Patrick

- ◆ August 2022-current: Continued research of previous students on dietary profiles of invasive bullfrogs in Mesa County. She will present this research at Student Showcase.

Alexander Burdick

Bella Barker

- ◆ April-July 2022: Both students completed field and lab work Monitoring the amphibians of McInnis Canyon National Conservation Area (MCNCA) including the presence of invasive Bullfrogs and the pathogenic fungus *Batrachochytrium dendrobatidis*.
- ◆ Both students completed library preparation for microbiological sequencing of Boreal Toad bacteria and identified dietary profiles of invasive bullfrogs in Mesa County. Each student presented a poster at a national conference: JMIH.

2021 Royanna Crawford

- ◆ Summer 2021: Saccomanno Internship Program in Biological Research (SIPBR) intern. Crawford monitored disease ecology of amphibians on the Grand Mesa National Forest including the state-endangered Boreal Toad. We assisted CPW with monitoring & translocation of Boreal Toad tadpoles to reintroduce to an area where they were extirpated by disease. Oral presentation on the research at the annual 2021 Saccomanno symposium & at JMIH.

Tanner Fundingsland

Trevor Sipe

Abram Wood

- ◆ Summer 2021: Students completed work monitoring the amphibians of MCNCA including the presence of invasive Bullfrogs and the pathogenic fungus *Batrachochytrium dendrobatidis*. Students were mentored, supervised, and trained by me in field and lab research techniques. **Fundingsland** and **Sipe** presented a poster at JMIH.

2020 Marie Bates

- ◆ Summer 2020: SIPBR intern. Bates monitored disease status of amphibians on the Grand Mesa National Forest including the state-endangered Boreal Toad. We assisted CPW with preparation & translocation of Boreal Toad tadpoles to reintroduce to an area where they were extirpated by disease. She also helped treat fungal infected Boreal Toads at CMU. Oral presentation at the annual 2020 Saccomanno symposium.

Isabella Bettinger

Matthew Frazier

- ◆ Summer 2020: Both students completed work on Survey of the amphibians of McInnis Canyon National Conservation Area and the presence of the pathogenic fungus *Batrachochytrium dendrobatidis* (2019 USGS Cooperative Agreement Grant). They were mentored, supervised, and trained by me in field and lab research techniques. s

2019 Heidi Kloser

Emily Stockton

- ◆ Summer 2019: Both students were SIPBR interns and worked on Survey of the amphibians of McInnis Canyon National Conservation Area and the presence of the pathogenic fungus *Batrachochytrium dendrobatidis* (2019 USGS Cooperative Agreement Grant). **Kloser** presented on this research at the annual 2019 Saccomanno symposium. **Stockton** also assessed lymphocyte ratios in relation to infection in bullfrogs collected from Mesa County, CO. Oral presentation on results at the annual 2019 Saccomanno symposium.
- ◆ Fall 2019: Both students worked on separated components on a project titled “Metabolites from bacteria used in organic agriculture have different effects on growth of pathogenic amphibian fungus in vitro”. Results of their research presented at CMU’s 2020 Student Showcase.

CONFERENCE PRESENTATIONS & WEBINARS (Partial List)

*denotes mentored undergraduate student

Patrick, R.* and **DM Weeks**. 2023. Predation on Western Colorado Vertebrates by the Invasive American Bullfrog (*Lithobates catesbeianus*).

- CMU Student Showcase
- TriBeta National Biological Honor Society, Pueblo, CO

Weeks, DM. 2023. Citizen Science and Bullfrog Eradication in Western Colorado. COPARC Annual Meeting, Denver, CO.

Weeks, DM. 2023. Citizen Science and Bullfrog Eradication in Western Colorado. Webinar for Collaborative Conservation and Adaptation Strategy Toolbox (CCAST).

- Barker B*, Burdick A*, and **DM Weeks**. 2022. Boreal Toad (*Anaxyrus boreas*) Microbiome Response to Itraconazole Treatment for *Batrachochytrium dendrobatidis* Infection (poster). Joint Meeting of Ichthyologists and Herpetologists (JMIH), Spokane, WA.
- Burdick A*, Barker B*, and **DM Weeks**. 2022. Invasive Bullfrogs of Western Colorado: Dietary Profile and *Batrachochytrium dendrobatidis* status of *Lithobates catesbeianus* removed from Local Wetlands (poster). JMIH, Spokane, WA.
- Crawford R* and **DM Weeks**. 2021. Boreal Toads of the Grand Mesa National Forest. JMIH, Phoenix, AZ.
- Fundingsland T*, Sipe T*, Wood A*, and **DM Weeks**. 2021. Amphibian Search & Rescue: Monitoring the amphibians of McInnis Canyon National Conservation Area in Western Colorado (poster). JMIH, Phoenix, AZ.
- Weeks DM** and MJ Parris. 2018. Potential mitigation of an amphibian fungal disease with microbial pesticides. Ecological Society of America Annual Meeting, New Orleans, LA.
- Weeks DM** and M Parris. 2017. Immunity is Skin Deep: Considering Microbial Pesticides as a Disease Mitigation Strategy for Chytridiomycosis. JMIH, Austin, TX.
- Weeks DM** and M Parris. 2017. Bacteria used in organic agriculture inhibit growth of a pathogenic amphibian fungus in vitro (poster). The University of Memphis, Student Research Forum.

PEER-REVIEWED PUBLICATIONS *denotes mentored Colorado Mesa University Student

- Weeks DM**, Wells C, Crocket H, Pessier A. **In prep.** Use of Itraconazole to eradicate *Batrachochytrium dendrobatidis* infection of *Boreas boreas* captive population.
- Weeks, D.M.**, D.S. Pilliod, M. Grant-Hoffman, A. Quintana Spencer, D. Neubaum, P. Hampton, M.R. Grossklaus, M.B. Laramie, and E. Muths. **In Review.** Amphibian Diversity of the Colorado Canyonlands including Potential Threats from Non-native Bullfrogs and Disease. Western North American Naturalist.
- Kloser H*, Stockton E*, **Weeks DM**. 2024. *Bacillus thuringiensis* volatile organic compounds (VOCs) inhibit the growth of the pathogenic amphibian fungus, *Batrachochytrium dendrobatidis*, while autoclaved secondary metabolites promote fungal growth. The Microbe 4:100118.
- Weeks DM**, Parris MJ, Brown SP. 2020. Recovery and resiliency of skin microbial communities on the southern leopard frog (*Lithobates sphenoccephalus*) following two biotic disturbances. Animal Microbiome.
- Weeks DM**, Espinoza RE. 2020. Performance eurythermy in a cold climate gecko. Journal of Experimental Zoology A.
- Weeks DM**, Parris MJ. 2019. A *Bacillus thuringiensis* subsp. *kurstaki* biopesticide at environmentally relevant concentrations does not reduce hatching success or tadpole survival in *Lithobates sphenoccephalus*. Environmental toxicology and chemistry 39: 155-161.

Hanlon SM, Henson JR, Patillo B, **Weeks DM**, Kerby JL, Moore JE. 2016. No occurrence of ranaviruses in reptiles from Wapanocca National Wildlife Refuge in Arkansas, USA. *Herpetological Review* 47: 606-607.

Weeks DM, Espinoza RE. 2013. Lizards on ice: comparative thermal tolerances of the world's southernmost gecko. *Journal of Thermal Biology* 38: 225-232.