

Catherine G Haase

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Current Position

2019- **Assistant Professor, Department of Biology, Austin Peay State University**
2022- **Research Associate, Southeastern Grasslands Institute**

Current Research Projects

2022- **Impacts of perceived predators on bat foraging**
Funding: Austin Peay State University Research Support Grant (\$4,170 received)

2022- **Evaluating bat response to bat box microclimates**
Funding: Austin Peay State University Research Support Grant (\$4,898 received) and Robert D. Brown Ecology and Conservation Endowment (\$1,400 received)

2021- **Mammal community response to southeastern grassland restoration**
Project collaborators: Dr. Dwayne Estes, Dr. Evan Rehm
Funding: NFWF Cumberland Plateau-Southern Appalachians Fund (\$216,616 received)

2021- **Tri-color bat hibernation behavior in non-traditional hibernacula**
Project collaborators: Dr. Nathan Fuller (Texas Parks and Wildlife)
Funding: US Fish and Wildlife Service WNS Conservation Grant (\$147,226 received)

2019- **Changes in the bat community in Fort Campbell, KY**
Project collaborators: Gene Zirkle (Fort Campbell Fish and Wildlife)
Funding: Intergovernmental Support Agreement (\$388,385 and \$2,070,232 received)

Previous Positions

2016-2019 Postdoctoral Research Associate, Department of Microbiology, Montana State University
2018 Lecturer, School of Animal and Range Sciences, Hawassa University, Ethiopia
2016 Postdoctoral Research Associate, Department of Geography, University of Florida
2011-2012 Research Associate, Northern Rocky Mountain Science Center, US Geological Survey
2010-2011 Research Associate, Cary Institute of Ecosystem Studies

Education

2016 **PhD in Interdisciplinary Ecology/Wildlife Ecology and Conservation, University of Florida**
School of Natural Resources and Environment
Department of Wildlife Ecology and Conservation

2010 **MS in Conservation Biology, SUNY College of Environmental Science and Forestry**
Department of Environmental and Forest Biology

2007 **BS in Wildlife, Unity College**

Teaching Experience

2019- **Austin Peay State University**
BIOL 4080/4081 Ecology & Lab (4 cr) Fall/Spring
BIOL 3000/3001 Biological Methods & Lab (4 cr) Fall/Spring
BIOL 4630/4631 & 5630/5631 Mammalogy & Lab (graduate-level) (4 cr) Fall
BIOL 5700 Topics in Biology: Biostatistics in R (4 cr) Fall/Spring
BIOL 5700 Topics in Biology: Hibernation Ecology (4 cr) Fall
HON 1045 Foundations in Interdisciplinary Thinking: Science in the Movies (3 cr) Fall
BIOL 3330/3331 Principles of Evolution & Lab (4 cr) Fall/Spring

2018	Hawassa University, Ethiopia ARSc 701 Research Methods and Biostatistics in R (3 cr) Fall
2013-2014	University of Florida EVR 2001 Introduction to Environmental Science (1 cr) Fall/Spring
2007-2009	SUNY College of Environmental Science & Forestry [<i>*as graduate teaching assistant</i>] EFB 220* Urban Ecology (3 cr) Fall EFB 484* Winter Mammalian Ecology (3 cr) Spring EFB 493* Wildlife Habitats and Population Management (4 cr) Fall EFB 311 Principles of Evolution (3 cr) Spring NSF Undergraduate Mentoring Experience in Biology (6 cr) Summer

Grants and Fellowships (\$2,881,241 granted)

2023	Intergovernmental Support Agreement with the Department of Defense - \$2,070,232
2022	Animal Welfare Institute Christine Stevens Wildlife Award - \$14,900
2022	Faculty Research Support Grant (APSU) - \$4,170
2022	Student Academic Success Initiative (APSU) - \$5,650
2021	Faculty Research Support Grant (APSU) - \$4,898
2021	USFWS White-nose Syndrome Conservation Grant (<i>as Co-PI</i>) - \$147,226
2021	NFWF Cumberland Plateau-Southern Appalachians Fund (<i>as Co-PI</i>) - \$216,616
2021	Student Academic Success Initiative (APSU) - \$3,600
2021	Robert D. Brown Ecology and Conservation Endowment (APSU) - \$1,400
2020	Intergovernmental Support Agreement with the Department of Defense - \$388,385
2020	Technology Access Fee (APSU) - \$5,264
2020	Undergraduate Research Enrichment Fund (APSU) (<i>listed as mentor</i>) - \$6,000
2017	NSF Infectious Disease Evolution Across Scales - \$3,000
2014-2016	Debra Lowe Fellowship (UF) - \$6,000
2014-2016	University of Florida Travel grants (UF) - \$4,500
2012-2015	Grinter Fellowship (UF) - \$5,500
2010	North American Moose Conference Newcomer's Award - \$1,000
2009	Sigma Xi Society Research in Need Grant - \$1,000
2009	Edna B Sussman Foundation Fellowship (SUNY ESF) - \$5,800

Awards

2022	Austin Peay Socrates Award for Excellence in Teaching
2020	Austin Peay Helping Hands Faculty Award
2011	Adirondack Research Consortium Graduate Student Award
2010	SUNY ESF Alumni Association Award
2007	Unity College Wildlife Leadership Award
2005	Maine State Campus Compact Heart and Soul Award

Peer-reviewed Publications

1. **Haase, CG**, RJ Fletcher, Jr DH Slone, JP Reid, SM Butler. *In press* Quality of thermal refuges influences use by the cold intolerant Florida manatee. *Endangered Species Research*.
2. McGuire, LP, NW Fuller, **CG Haase**, KA Silas, SH Olson. 2022. Lean mass dynamics in hibernating bats and implications for energy and water budgets. *Physiological & Biochemical Zoology* 95:317-325
3. McClure, ML, CR Hranac, **CG Haase**, S McGinnis, BG Dickson, DTS Hayman, LP McGuire, CL Lausen, RK Plowright, NW Fuller, SH Olson. 2022. Projecting compound effects of climate change and white-nose syndrome on North American bat species. *Climate Change Ecology* 3:100047

4. McGuire, LP, NW Fuller, YA Dzal, **CG Haase**, B Klug-Baerwald, KA Silas, RK Plowright, CL Lausen, CKR Willis, SH Olson. 2021. Interspecific variation in evaporative water loss and temperature response, but not metabolic rate, among hibernating bats. *Scientific Reports* 11(1):1-9
5. McGuire, LP, NW Fuller, YA Dzal, **CG Haase**, KA Silas, CKR Willis, SH Olson, CL Lausen. 2021. Similar physiology in hibernating bats across broad geographic ranges. *Journal of Comparative Physiology B* 192(1):171-181
6. **Haase, CG**, A Yang, K McNyset, J Blackburn. 2021. GARPTools: R software for data preparation and model evaluation of GARP models. *Ecography* 44(12):1790-1796
7. Hranac, CR, **CG Haase**, NW Fuller, ML McClure, JC Marshall, CL Lausen, LP McGuire, SH Olson, DTS Hayman. 2021. What is a winter? Modelling spatial variation in bat host traits and hibernation and their implications for overwintering energetics. *Ecology and Evolution* 11(17):11604-11614
8. McClure, ML, **CG Haase**, D Crowley, LP McGuire, NW Fuller, DTS Hayman, CL Lausen, RK Plowright, BG Dickson, SH Olson. 2021. A hybrid correlative-mechanistic approach for modeling and mapping winter distributions of western bat species. *Journal of Biogeography* 48:2429-2444
9. **Haase, CG**, NW Fuller, YA Dzal, DTS Hayman, CR Hranac, C Lausen, KA Silas, SH Olson, RK Plowright. 2021. Body mass and hibernation microclimate may predict bat susceptibility to white-nose syndrome. *Ecology and Evolution* 11(1):506-515
10. McClure, ML, D Crowley, **CG Haase**, LP McGuire, NW Fuller, DTS Hayman, CL Lausen, RK Plowright, BG Dickson, SH Olson (2020) Linking surface and subterranean climate conditions: implications for the study of hibernating bats and other cave dwellers. *Ecosphere* 11(10):1-17
11. Fuller, NW, LP McGuire, EL Pannkuk, T Blute, **CG Haase**, HW Mayberry, TS Risch, CKR Willis (2020) Disease recovery affected by white-nose syndrome. *Experimental Biology* 223(6):1-12
12. **Haase, CG**, RJ Fletcher, Jr, DH Slone, JP Reid, SM Butler (2020) Traveling to thermal refuges during stressful temperatures leads to foraging constraints in a central-place forager. *Journal of Mammalogy* 101(1):271-280
13. **Haase, CG**, NW Fuller, CR Hranac, DTS Hayman, LP McGuire, KJO Norquay, KA Silas, CKR Willis, RK Plowright, SH Olson (2019) Incorporating evaporative water loss into bioenergetic models of hibernation to test influence of host and pathogen traits on white-nose syndrome. *PLOS ONE* 14(10):e022231
14. Fuller, NW, **CG Haase**, KA Silas, SH Olson, LP McGuire (2019) First reported case of diphallia in *Corynorhinus townsendii*. *Western North American Naturalist* 79(3):454-457
15. **Haase, CG**, NW Fuller, CR Hranac, DTS Hayman, SH Olson, RK Plowright, LP McGuire (2019) Bats are not squirrels: revisiting the assumptions of costs of cooling in hibernating mammals. *Journal of Thermal Biology* 81:185-193
16. Yang, A, JP Gomez, **CG Haase**, KM Proffitt, JK Blackburn (2019) Effects of Brucellosis serological status on physiological conditions and behavioral mechanisms of Southwestern Montana Elk. *Journal of Wildlife Diseases* 55(2):304-315
17. **Haase, CG**, RJ Fletcher, Jr, DH Slone, JP Reid, SM Butler (2017) Landscape complementation revealed through bipartite networks: the Florida manatee. *Landscape Ecology* 32:1999-2014
18. Slone, DH, SM Butler, JP Reid, **CG Haase** (2017) Timing of warm water refuge use in Crystal River National Wildlife Refuge by manatees. US Geological Survey Open-File Report
19. Hayward, A, M Pajuelo, **CG Haase**, DM Anderson, JF Gillooly (2016) Common metabolic constraints on dive duration in endothermic and ectothermic vertebrates. *PeerJ* 4:e2569
20. Cross, PC, ES Almborg, **CG Haase**, PJ Hudson, S Maloney, M Metz, A Munn, P Nugent, O Putzeys, DR Stahler, AC Stewart, DW Smith (2016) Energetic costs of range in Yellowstone wolves estimated from infrared thermography. *Ecology* 97(8):1938-1948
21. **Haase, CG**, AK Long, JF Gillooly (2016) Energetics of stress: Linking plasma cortisol levels to metabolic rate in mammals. *Biology Letters* 12(1):1-4
22. **Haase, CG**, HB Underwood (2013) Integrating thermal constraints into habitat suitability for moose in the Adirondack State Park, NY. *Alces* 49:49-64

Publications in Review (*indicates student)

1. Zirkle, SC*, SK Krueger, GA Zirkle, **CG Haase**. Summer roost site selection of a declining bat species. Submitted to Journal of Wildlife Management.
2. **Haase, CG**, SK Krueger*, SC Zirkle*, GA Zirkle. Long-term phenotypical response of North American bats to a multi-host pathogen. Submitted to Ecology and Evolution. Submission ID# ECE-2023-10-01827
3. Wolf, LK, **CG Haase**, P Sprouse, EP Gomex-Ruiz, TE Lacher, Jr. White-nose syndrome steppingstones: suitability of Mexican karst regions to sustain *Pseudogymnoascus destructans* fungus. Submitted to the Journal of Mammalogy. Submission ID #JMAMM-2023-182.
4. Lemieux-labonte, V, J Pathmanathan, Y Terrat, N Tromas, C Lausen, A Simard, CG Haase, CKR Willis FJ Lapointe. *Pseudogymnoascus destructans* infection impacts the functional metagenome of highly vulnerable *Myotis lucifugus*. Submitted to Microbiology Ecology. Manuscript ID# FEMSEC-23-08-0336
5. Walker*, R, A Culley*, **CG Haase**, M Thomas, S Brandt, M Floyd, RE Johansen. High conductivity contributes to population isolation of a small-bodied, benthic, headwater specialist fish (Percidae). Submitted to Ecology of Freshwater Fishes. Manuscript # Eff-23-0094.
6. Olson, SH, CM Davy, CL Lausen, YA Dzal, JT Foster, WF Frick, NW Fuller, **CG Haase**, CR Hranac, HE Kretser, S Lieberman, C McCann, ML McClure, C Mormorunni, JC Ray, M Verant, C Walzer, CKR Willis, LP McGuire. Facilitating evolutionary rescue from a wildlife health threat with cross-sectoral strategies: a case study on white-nose syndrome. Submitted to Ecology and Society. Manuscript ID# ES-2023-14350
7. Krueger*, S, SC Zirkle*, J O'Keefe, G Zirkle, C Haase. White-nose syndrome, winter duration, and pre-hibernation climate impact abundance of reproductive female bats. Submitted to PLOS One. Manuscript ID# PONE-D-23-27009

Invited Presentations

1. Quality of thermal refuges influences use by the cold-intolerant Florida manatee. November 2023. Florida Manatee Forum, Jacksonville, FL
2. What is Science? What's Up Wednesday, February 2023, Austin Peay State University, Clarksville, TN
3. The energetic impacts of disease: a case study of white-nose syndrome in southeastern bats. December 2022. Delaware County Institute of Science
4. Habitat conservation and wildlife connectivity. March 2022. Sustaining Biodiversity course, Austin Peay State University, Clarksville, TN
5. The energetic costs of disease: a case study of bioenergetics of white-nose syndrome. February 2022. Fish and Wildlife Research Institute Spring 2022 seminar series, Florida Fish and Wildlife Conservation Commission, Gainesville, FL
6. The energetic costs of disease: a case study of bioenergetics of white-nose syndrome. April 2021. Department of Biological Sciences Seminar Series, Wright State University, Dayton, OH
7. Energetic costs of disease: a case study of bioenergetics of white-nose syndrome. February 2021. School of Forestry and Wildlife Sciences Seminar Series, Auburn State University, Auburn, AL
8. Correlated, Random, Brains! What animal movement models can tell us about a zombie apocalypse. November 2019. Honors Biology course, Austin Peay State University, Clarksville, TN
9. The importance of scale: What landscape ecology can teach us about thermoregulation. September 2019. Department of Biology Seminar Series, Murray State University, Murray, KY
10. The importance of scale: What landscape ecology can teach us about thermoregulation May 2019 Department of Biological Sciences Seminar Series, Texas Tech University, Lubbock, TX
11. The energetics of disease: A case study of white-nose syndrome in western bats. March 2019. Department of Microbiology Seminar Series, Montana State University, Bozeman, MT
12. The importance of scale: What landscape ecology can teach us about thermoregulation. February 2019. Department of Biology Seminar Series, Austin Peay State University, Clarksville, TN
13. Energetics of disease. November 2017. Montana State University, Bozeman, MT
14. Some like it hot: Understanding how temperature shapes animal energetics and behavior. September 2017. Women in Science Lecture Series, St Mary's College, IN
15. Understanding manatee behavior in response to temperature. August 2016. The Institute of Learning in Retirement Science Lecture Series, Oak Hammock Retirement Center, Gainesville, FL

Theses

1. **Haase, Catherine G** (2016) The effects of the spatial configuration of thermal and forage habitats on behavior of the Florida manatee (*Trichechus manatus latirostris*). PhD Dissertation. School of Natural Resources and the Environment, University of Florida, 110 p.
2. **Haase, Catherine G** (2010) Characterizing critical thermal environments for moose (*Alces alces*) in the Adirondacks. MS Thesis. Department of Environmental and Forest Biology, SUNY College of Environmental Science and Forestry, 125 p.

Presentations at Professional Conferences (*indicates student)

1. Simonis, MC, S Ciarrachi, KE Dyer, M Allira, RF Bernard, MM Chumcal, **CG Haase**, JT Foster, DJ Becker (2024) Extrinsic stressors impact North American bat cellular immunity during reproductive periods. Society for Integrative and Comparative Biology Meeting. Seattle, WA
2. Anderson, EJ*, DG McIlwain*, **CG Haase** (2023) Development of an automated bat box detection system to assess use in response to microclimate. ACM Mid-Southeast Conference. Gatlinburg, TN
3. Gulley, BR*, DJ Van Parys*, **CG Haase** (2023) Altered foraging behavior as a response to increased predator presence in bats. Tennessee Bat Working Group meeting. Knoxville, TN
4. Gulley, BR*, DJ Van Parys*, **CG Haase** (2023) Altered foraging behavior as a response to increased predator presence in bats. North American Society for Bat Research Annual Meeting. Winnipeg, Canada
5. Crowley, LN*, NW Fuller, **CG Haase** (2023) Fungal growth evasion by tri-colored bats in non-traditional hibernacula. National White-nose Syndrome Meeting. Palm Springs, CA
6. Krueger, SK*, SC Zirkle*, JM O'Keefe, G Zirkle, **CG Haase** (2022) Impact of white-nose syndrome and local climate on reproduction of female bats in the southeastern United States. North American Society for Bat Research Annual Meeting. Austin, TX
7. Walker, TG*, G Zirkle, **CG Haase** (2022) Effects of aquatic insect abundance and biomass on bat species diversity. North American Society for Bat Research Annual Meeting. Austin, TX
8. **Haase, CG**, NW Fuller, YA Dzal, DTS Hayman, CR Hranac, C Lausen, KA Silas, SH Olson, RK Plowright (2022) Body mass and hibernation microclimate may predict bat susceptibility to white-nose syndrome. Northeast Bat Working Group Annual Virtual Meeting
9. **Haase, CG**, NW Fuller, YA Dzal, DTS Hayman, CR Hranac, C Lausen, KA Silas, SH Olson, RK Plowright (2021) Body mass and hibernation microclimate may predict bat susceptibility to white-nose syndrome. American Society of Mammalogists Annual Meeting
10. Olson, SH, D Crowley, B Dickson, YA Dzal, NW Fuller, **CG Haase**, DTS Hayman, CR Hranac, EM Johnson, EL Kunkel, CL Lausen, ML McClure, LP McGuire, RK Plowright, KA Silas, CKR Willis (2020) A multi-species evaluation of hibernation physiology and influence on white-nose syndrome risk factors. White-nose Syndrome National Webinar
11. **Haase, CG***, NW Fuller, YA Dzal, DTS Hayman, CR Hranac, C Lausen, K Silas, LP McGuire, SH Olson, RK Plowright (2020) Adaptations to drier hibernacula mitigate mortality from white-nose syndrome in western bat species. American Society of Mammalogy Conference. Boulder, CO
12. Fuller, NW, **CG Haase**, K Silas, SH Olson, LP McGuire (2019) The hibernation phenotype: interspecific and regional variation of hibernation physiology. North American Society for Bat Research Annual Meeting. Kalamazoo, MI
13. McClure, ML, **CG Haase**, D Crowley, DTS Hayman, CR Hranac, C Lausen, NW Fuller, LP McGuire, RK Plowright, SH Olson (2019) Modeling and mapping western bat hibernaculum suitability before and after *Pd* exposure. North American Society for Bat Research Annual Meeting. Kalamazoo, MI
14. Hranac, CR, **CG Haase**, NW Fuller, JC Marshall, CL Lausen, LP McGuire, SH Olson, DTS Hayman (2019) What is a winter? Addressing data deficiency in model parameters in overwintering bat models. North American Society for Bat Research Annual Meeting. Kalamazoo, MI
15. **Haase, CG**, NW Fuller, YA Dzal, DTS Hayman, CR Hranac, C Lausen, K Silas, LP McGuire, SH Olson, RK Plowright (2019) Estimating susceptibility of western bat species to WNS with the application of bioenergetic disease modeling. Western Bat Working Group. Tulsa, OK
16. **Haase, CG**, NW Fuller, DTS Hayman, CR Hranac, SH Olson, RK Plowright, LP McGuire (2019) Bats are not squirrels: revisiting the costs of cooling in hibernating mammals. Society for Integrative and Comparative Biology. Tampa, FL
17. **Haase, CG**, NW Fuller, DTS Hayman, CR Hranac, SH Olson, RK Plowright, LP McGuire (2018) Bats are not squirrels: revisiting the costs of cooling in hibernating mammals. North American Society for Bat Research. Puerto Vallarta, Mexico

18. Fuller, NW, **CG Haase**, KA Silas, SH Olson, LP McGuire (2018) Implications for white-nose syndrome in western bats. North American Society for Bat Research. Puerto Vallarta, Mexico
19. **Haase, CG**, NW Fuller, DTS Hayman, CR Hranac, LP McGuire, SH Olson, RK Plowright (2018) Modelling the influence of evaporative water loss on hibernation energetics and implications for white-nose syndrome. National White-nose Syndrome Meeting. Tacoma, WA
20. Olson, SH, **CG Haase**, NW Fuller, LP McGuire, DTS Hayman, CR Hranac, ML McClure, D Crowley, RK Plowright, YA Dzal, CKR Willis, EL Kunkel, C Lausen, BJ Klug-Baerwald, KA Silas (2018) A combined empirical and modeling approach to assess the impact of WNS in the West. National White-nose Syndrome Meeting. Tacoma, WA
21. McGuire, LP, NW Fuller, **CG Haase**, KA Silas, SH Olson (2018) Regional variation in hibernation phenotype: *Myotis velifer* hibernation at southern latitudes and implications for white-nose syndrome. Society for Integrative and Comparative Biology. San Francisco, CA
22. **Haase, CG**, NW Fuller, DTS Hayman, CR Hranac, LP McGuire, SH Olson, RK Plowright (2017) Modelling the influence of evaporative water loss on hibernation energetics and implications for white-nose syndrome. North American Society for Bat Research. Knoxville, TN
23. McClure, ML, **CG Haase**, DTS Hayman, CR Hranac, N Justice, B Dickson, SH Olson (2017) Western bat distributions before and after exposure to white-nose syndrome: A hybrid correlative-mechanistic modeling approach. North American Society for Bat Research. Knoxville, TN
24. Hranac, CR, **CG Haase**, YA Dzal, C Lausen, JC Marshall, SH Olson, DTS Hayman (2017) Modeling the impact of white-nose syndrome on two western bat species. Second International Symposium on Infectious Diseases on Bats. Fort Collins, CO
25. **Haase, CG**, RF Fletcher, Jr, DH Slone, JP Reid, SM Butler (2016) Quantifying landscape complementation with bipartite networks and applications to habitat selection. International Association for Landscape Ecologists. Asheville, NC
26. **Haase, CG** and BH Underwood (2010) Integrating thermal cover into habitat models for moose. North American Moose Conference. International Falls, MN
27. **Haase, CG** and BH Underwood (2010) A habitat suitability index model incorporating thermal cover for moose in the Adirondack Park. Northeast Fish and Wildlife Conference. Boston, MA
28. **Haase, CG** and BH Underwood (2010) Characterizing critical thermal environments: applications to habitat suitability for moose. New York Chapter of the Wildlife Society. Alexandria Bay, NY
29. **Haase, CG** and BH Underwood (2009) Characterizing critical thermal environments: applications to habitat suitability modeling for moose. New York Chapter of American Foresters. Syracuse, NY

Selected Conference Posters (*indicates student under my mentorship)

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1. **Haase, CG**, EJ Anderson*, DG McIlwain*, DJ Van Parys* (2023) Development of an automated bat box detection system to assess use in response to microclimate. Tennessee Bat Working Group meeting.
 2. Crowley, LN*, NW Fuller, **CG Haase** (2023) Fungal disease evasion in aboveground non-traditional hibernacula. Tennessee Bat Working Group meeting. Knoxville, TN
 3. Crowley, LN*, NW Fuller, **CG Haase** (2023) Fungal disease evasion in aboveground non-traditional hibernacula. North American Society for Bat Research Annual Meeting. Winnipeg, Canada
 4. **Haase, CG**, EJ Anderson*, DG McIlwain*, DJ Van Parys* (2023) Development of an automated bat box detection system to assess use in response to microclimate. North American Society for Bat Research Annual Meeting. Winnipeg, Canada
 5. Walker, TG*, SC Zirkle*, SK Krueger*, G Zirkle, **CG Haase** (2021) Effects of aquatic insect abundance and biomass on bat species diversity. Tennessee Bat Working Group meeting. Virtual
 6. Zirkle, SC*, SK Krueger*, TG Walker*, G Zirkle, **CG Haase** (2021) Summer habitat use and roost-site selection of a recently petitioned bat species. Tennessee Bat Working Group meeting. Virtual
 7. Krueger, SK*, TG Walker*, SC Zirkle*, JM O'Keefe, G Zirkle, **CG Haase** (2021) Impact of white-nose syndrome and local climate on reproduction of female bats in the southeastern United States. Tennessee Bat Working Group meeting. Virtual
 8. Walker, TG*, SC Zirkle*, G Zirkle, **CG Haase** (2021) Effects of aquatic insect abundance and biomass on bat species diversity. Tennessee Academy of Sciences Meeting. Cookeville, TN [3rd place in student competition]
 9. Zirkle, SC*, SK Krueger*, G Zirkle, **CG Haase** (2021) Summer habitat use and roost-site selection of a recently petitioned bat species. Tennessee Academy of Sciences. Cookeville, TN [2nd place in student competition]

10. Krueger, SK *, TG Walker*, SC Zirkle*, JM O'Keefe, G Zirkle, **CG Haase** (2021) Impact of white-nose syndrome and local climate on reproduction of female bats in the southeastern United States. Tennessee Academy of Sciences. Cookeville, TN [*1st place in student competition*]
11. Walker, TG*, SC Zirkle*, SK Krueger*, G Zirkle, **CG Haase** (2021) Effects of aquatic insect abundance and biomass on bat species diversity. The Wildlife Society Annual Meeting. Virtual
12. Zirkle, SC*, SK Krueger*, TG Walker*, G Zirkle, **CG Haase** (2021) Summer habitat use and roost-site selection of a recently petitioned bat species. The Wildlife Society Annual Meeting. Virtual
13. Krueger, SK*, TG Walker*, SC Zirkle*, JM O'Keefe, G Zirkle, **CG Haase** (2021) Impact of white-nose syndrome and local climate on reproduction of female bats in the southeastern United States. The Wildlife Society Annual Meeting. Virtual
14. Silas, K.A., N.W. Fuller, C.G. Haase, S.H. Olson, L.P. McGuire. 2019. Diphallia in *Corynorhinus townsendii*. North American Society for Bat Research Annual meeting in Kalamazoo, MI, October 23-26, 2019.
15. **Haase, CG**, NW Fuller, DTS Hayman, CR Hranac, LP McGuire, SH Olson, RK Plowright (2018) Modelling the influence of evaporative water loss on hibernation energetics and implications for white-nose syndrome. National White-nose Syndrome Meeting. Tacoma, WA
16. McGuire, LP, NW Fuller, JG Boyles, **CG Haase**, KA Silas, SH Olson (2018) A conceptual framework of hibernation phenotype and interspecific variation in hibernation physiology. National White-nose Syndrome Meeting. Tacoma, WA
17. **Haase, CG**, RF Fletcher, Jr, DH Slone, JP Reid, SM Butler (2015) Influence of spatial patterns of thermal and forage resources on manatee behavioral decisions. Conference on the Biology of Marine Mammals. San Francisco, CA
18. **Haase, CG**, DH Slone, RF Fletcher, Jr, JP Reid, SM Butler (2015) Influence of the spatial distribution of water temperature on manatee behavior. Florida Chapter of the Wildlife Society. Jacksonville, FL
19. **Haase, CG**, DH Slone, JP Reid, RF Fletcher, Jr (2014) Influence of landscape and environmental variables on seasonal home range use of the Florida manatee in the Greater Everglades Region. Gordon Research Conferences: Unifying Scales Across Ecology. Biddeford, ME
20. **Haase, CG**, PC Cross, DW Smith, O Putzeys, P Nugent (2012) Are mangy wolves ENERGY STAR compliant? Energetic impacts of Sarcocystis mangle (*Sarcocystis scabiei*) on gray wolves (*Canis lupus*) in Yellowstone. Ecology and Evolution of Infectious Disease Workshop. Ann Arbor, MI

Outreach Activities

Bat Biology and Anatomy, Carmel Elementary School, Clarksville, TN, October 6, 2023
 Skype a Scientist at Mercury Mine Elementary School, September 14, 2023
 Bat Biology and Anatomy, Middle College, Clarksville, TN, August, 31, 2023
 STEM event with Clarksville home schools, Clarksville, TN, February 27, 2023
 Bat week! Customs House Museum, Clarksville, TN, October 29, 2022
 Skype a Scientist at Olathe Virtual Schools, January 24, 2022
 Bats in Danger: the impact of WNS, Rancocas Nature Center, NJ, August 12, 2021
 Science on Tap, Austin Peay State University, Clarksville, TN, May 5, 2021
 Zoom into STEM, Austin Peay State University, Clarksville, TN, January 22, 2021
 Skype a Scientist at Zia Elementary School, Albuquerque, NM, May 12, 2020
 Skype a Scientist at Lincoln Roosevelt School, Roxbury, NJ, April 29, 2020
 Family STEM Night at Moore Magnet Schools, Clarksville, TN, February 27, 2020
 Skype a Scientist at Hilton Central Schools, Rochester, NY, November 20, 2019
 STEM Night at Bakers Mill Elementary School, Clarksville, TN, October 24, 2019
 Hibernation is cool. 500 Women Scientists Suds and Science Series, Bozeman, MT, June 30, 2019
 Careers in science. Washington Township Middle School, Boonton, NJ, December 20, 2018
 From moose to manatees. 500 Women Scientists, Bozeman, MT, July 28, 2018
 Bats at risk: Current status of white-nose syndrome. Speaking of Nature Series, Rancocas Nature Center, Westhampton Township, NJ, October 17, 2017
 Science in Yellowstone. Valleyview Middle School, Denville, NJ, December 22, 2015

Popular Media (as author)

"Want to be a Bat Hero this Halloween? Don't Visit the Batcave." *Live Science*, October 29, 2018
 "When a Bat Sees Its Shadow: Winter Length Affects Bat Survival." *National Geographic*, April 17, 2018
 "Why Bats Are So Good at Gulping Down (Halloween) Prey." *Live Science*, October 25, 2017

Popular Media (featured)

- "Austin Peay receives grant to study bats on Fort Campbell." *WKRN*, October 30, 2023
- "Haase picks up long-term IGSA contract to continue APSU's bat research." *APSU News*, September 20, 2023
- "Dr. Catherine G. Haase with the 2022 Christine Stevens Wildlife Award." *APSU News*, February 27, 2023
- "Landscape-scale restoration continues at soak creek farm." *TennGreen Land Conservancy*, February 6, 2023
- "Four bat species in one night." *APSU News*, August 23, 2022
- "Austin Peay graduate student identifies 55,085 insects during bat research." *APSU News*, April 25, 2022
- "Disease threatens to decimate western bats." *Science Daily*, January 22, 2021
- "Austin Peay, Fort Campbell partner in white-nose syndrome study." *APSU News*, September 28, 2020
- "Post partners with APSU to track endangered bat species." *Fort Campbell Courier*, August 13, 2020
- "Saving the bats, one cave at a time." *The New York Times*. February 18, 2019
- "Plague marching west: researchers study bats to stop their demise." *The Guardian*, October 18, 2018
- "X-Ray: Yellowstone" *Discovery Channel's Curiosity Series* December 2012
- "Color-Coded Wolves: Infrared Reveals an Illness among Wolves." *Science World*, September 2012
- "Infrared Imaging Helps Save Yellowstone's Wolves." *Wired*, May 2012

Advising and Mentoring

Dakota Van Parys	Undergraduate mentor (2021 - 2023); Graduate advisor, MS thesis track (2023 - present)
Ryan Stuart	Graduate advisor, MS thesis track (2023 - present)
Brandon Gulley	Graduate advisor, MS thesis track (2022 - present)
Leah Crowley	Graduate advisor, MS thesis track (2022 - present)
Caroline Miller	Undergraduate mentor (2024 - present)
Gabrielle Tomboc	Undergraduate mentor (2023 - present)
Logan Young	Undergraduate mentor (2023 - present)
Stella Ugobuaku	Committee member, MS thesis track (2023 - present)
Allison Palmer	Committee member, MS thesis track (2023 - present)
Anna Chess	Committee member, MS thesis track (2023 - present)
Baily Crable	Committee member, MS thesis track (2023 - present)
Patience Oni	Committee member, MS non-thesis track (2022 - present)
Erik Anderson	Undergraduate mentor (2022 - present)
Casey Kleinhans	Undergraduate mentor (2022 - present)
Alexis Culley	Committee member, MS thesis track (2020 - present)
Jacob Wyco	Committee member, MS thesis track (2022 - present)
Nathaniel Selleck	Committee member, MS thesis track (2020 - present)
Gabriella LeFevre	Committee member, MS thesis track (2021 - 2023)
Drew McIlwain	Undergraduate mentor (2022 - 2023)
Kennedy Beck	Undergraduate mentor (2021 - 2022)
Brittney Georgic	Committee member, MS thesis track (2020 - 2022)
Jacob Barrett	Committee member, MS non-thesis track (2020 - 2022)
River Watson	Committee member, MS thesis track (2020 - 2023)
Julie Kastanis	Committee member, MS thesis track (2020 - 2023)
Connor Hughes	Committee member, MS thesis track (2020 - 2022)
Jocelyn Stalker	Committee member, MS thesis track (2020 - 2022)
Trevor Walker	Graduate advisor, MS thesis track (2020 - 2022)
Sarah Zirkle	Graduate advisor, MS thesis track (2020 - 2022)
Sarah Krueger	Graduate advisor, MS thesis track (2020 - 2022)
Matthew Scott	Undergraduate mentor (2021 - 2022)
Harrison Rogers	Undergraduate mentor (2021 - 2022)
Holly Latta	Graduate advisor, MS non-thesis track (2020 - 2022)
Jonathan Crockarell	Undergraduate mentor (2020 - 2021)
John Hansen	Undergraduate mentor (2020 - 2021)
Brandon Brown	Committee member, MS thesis track (2019 - 2021)
Robert Ryan	Committee member, MS thesis track (2019 - 2020)
Lyranda Thiem	Committee member, MS thesis track (2019 - 2020)
Molly Richard	Committee member, MS thesis track (2019 - 2020)
Chelsea Blumbergs	Committee member, MS non-thesis track (2019 - 2020)

Professional Contributions

Service to University Community

2023- Chair, Faculty Search Committee, APSU Department of Biology
2023- Chair, APSU Department of Biology Handbook Committee
2023- Chair, APSU Department of Biology Student Learning Outcomes Assessment Committee
2022 Chair, APSU Retention, Tenure, Promotion Policy Review Committee
2021-2022 Sub-committee co-chair, APSU College of STEM Diversity and Inclusion Committee
2020- APSU Environmental Health and Safety Advisory University Committee
2020-2023 APSU College of STEM Diversity and Inclusion Committee
2020-2023 APSU Department of Biology Student Learning Outcomes Assessment Committee
2019-2023 Chair, APSU Department of Biology Communications Committee
2019- Faculty advisor, Austin Peay State University Chapter of The Wildlife Society

Service to Scientific Community

2023- Board of Directors, North American Society for Bat Research (NASBR)
2018-2019 Co-director, Bozeman 500 Women Scientists

Workshop Development

2021-2023 Wildlife Field Techniques Workshops, Austin Peay State University
2017 R Workshop for Beginners, Montana State University
2013-2016 R Workshop for Beginners, University of Florida

Professional Society Memberships

2020- Tennessee Academy of Science (TAS)
2016- North American Society for Bat Research (NASBR)
2007- American Society of Mammalogists (ASM)
2003- The Wildlife Society (TWS)

Working Groups and Society Section Memberships

2020- Southeastern Bat Diversity Network
2020- Tennessee Bat Working Group
2019- Tennessee Chapter of The Wildlife Society
2019- TWS Spatial Ecology & Telemetry Working Group
2019- TWS Early Career Professional Working Group
2019- TWS College & University Wildlife Education Working Group
2016-2019 Western Bat Working Group

Reviewer

Journals: *Alces*, *Animal Behaviour*, *Animal Conservation*, *Biodiversity and Conservation*, *Conservation Physiology*, *Ecography*, *EcoHealth*, *Ecology*, *Ecology and Evolution*, *Ecosphere*, *Functional Ecology*, *Herpetologica*, *Integrative and Comparative Biology*, *Journal of Animal Ecology*, *Journal of Mammalogy*, *Journal of the Southeastern Association of Fish and Wildlife Agencies*, *Journal of Thermal Biology*, *Journal of Wildlife Diseases*, *Mammalia*, *PLOS One*, *Proceedings of the Royal Society B*, *Scientific Reports*

Grants: Bats for the Future Fund (National Fish & Wildlife Foundation), Morris Animal Foundation, Wind Wildlife Research Fund (American Wind Wildlife Institute), Discovery Grants (Natural Sciences and Engineering Research Council of Canada)

Software Tools Development

GARPTools An R package for GARP species distribution model evaluation
batwintor An R package for computing the metabolic costs of hibernation