

Curriculum Vitae

Jessica Erin LaPrice, Ph.D. (née Healy)
Associate Professor
Washington & Lee University

Current as of: January 5, 2026

Contact information

Address: Washington & Lee University, Department of Biology
204 W. Washington St.
Lexington, VA 24450

Phone number: 540-458-8974 (office)
903-436-3301 (cell)

Email: jlaprice@wlu.edu ; jehealy82@gmail.com

Education

Ph.D., Zoology, Colorado State University, Fort Collins, CO, 2010
Concentration: Ecological Physiology
Dissertation: Hormonal controls of obesity in feeding and fasting hibernating mammals
Advisor: Gregory Florant, Ph.D.

B.A., Biology, Central College, Pella, IA, 2005

Post Graduate Training

Postdoctoral Research Associate, January 2011 – August 2012
Mentor: Robert Handa, Ph.D., University of Arizona College of Medicine-Phoenix

Teaching background

Associate Professor of Biology, 2024 – current
Washington & Lee University
Courses: Extreme Physiology (BIOL 395), Animal Physiology in a Changing Climate (BIOL 297), Field Mammalogy (BIOL 297), Life at the Crossroads (BIOL 111)

Associate Professor of Biology, 2018 – 2024
Assistant Professor of Biology, 2012 – 2018
Austin College
Courses: Ecology, Evolution and Behavior (BIOL 115), Conservation & Restoration Ecology (BIOL 259), Mammalogy (BIOL 222), Comparative Vertebrate Anatomy (BIOL 322), Extreme Physiology (BIOL 351), Physiological Ecology (BIOL 353), Research & Design of Experiments (BIOL 472),

Human-Wildlife Conflict (BIOL 101), Science & Society (BIOL 101), Exploring Global Biodiversity (FYS 100), Biodiversity & System Function (FYS 100), Biological & Cultural Diversity in Trinidad & Tobago (JT 100), Astrobiology (JT 100), Tropical Ecology & Conservation in Panama (JT 100), Scientific Leadership Senior Seminar (SCI 455)

Invited lecturer, 2009-2010
University of Colorado, Boulder
Course: Winter Ecology

Invited lecturer, 2007-2010
Colorado State University
Courses: Mammalogy, Comparative Vertebrate Anatomy, Comparative Animal Physiology, Zoophysiological Ecology

Graduate Teaching Assistant, 2006-2010
Colorado State University
Courses: Basic Biology, Comparative Vertebrate Anatomy, Developmental Biology, Mammalogy

Undergraduate Teaching Assistant, 2004-2005
Central College
Course: Comparative Vertebrate Anatomy

Professional Activities/Honors

- Member International Hibernation Society, Board member 2022-current, Secretary 2024-current
- Member Texas Society of Mammalogists, President 2023-2024
- Member Sigma Xi
- Member Society for Integrative & Comparative Biology
- Member American Society of Mammalogists

-Roy F. Melugin, Jr. Award for Outstanding Professional Achievement in the Sciences, Austin College, 2022

-Roy F. Melugin, Jr. Award for Outstanding Service in the Sciences, Austin College, 2020

-Roy F. Melugin, Jr. Award for Outstanding Teaching in the Sciences, Austin College, 2016

-2nd place graduate student poster presentation CSU Biology Department Symposium, 2008

Publications

*Kim, B., *Ziccardi, C., *Cross, K., *Obialor, W., *Rodriguez-Moreno, L., **LaPrice, J.E.** Energy balance in captive active-season 13-lined ground squirrels (*Ictidomys tridecemlineatus*). In prep for submission to *Integrative and Comparative Biology*.

*Solis, E., *Davis, E., *Dickerson, H., *Tessier, V., *Armstrong, T., **Healy-LaPrice, J.E.** 2022. Thirteen-lined ground squirrel (*Ictidomys tridecemlineatus*) morphology and burrow placement

across a latitudinal range. *Western North American Naturalist* 82(3) pp. 549–562.
<https://doi.org/10.3398/064.082.0310>

*Dickerson, H., *Tessier, V., *Davis, E., *Solis, E., *Armstrong, T., **Healy-LaPrice, J.E.** 2022. Body temperature patterns and energy balance hormones in free-living thirteen-lined ground squirrels (*Ictidomys tridecemlineatus*) from different latitudes. *Physiological & Biochemical Zoology* 95(6). <https://doi.org/10.1086/721443> .

Foradori, C.D., **Healy, J.E.**, Zimmerman, A.D., Kemppainen, R.J., Jones, M.A., Read, C.C., White, B.D., Don, K.Y., Hinds, L.R., Lacagnina, A.F., Quihuis, A.M., Breckenridge, C.B., Handa, R.J., 2018. Characterization of activation of the hypothalamic-pituitary-adrenal axis by the herbicide atrazine in the female rat. *Endocrinol.* 159 (9): 3378-3388.

Healy, J.E., Florant, G.L., 2012. Ghrelin, leptin, and fatty acids in free-living *Callospermophilus lateralis* (Golden-mantled ground squirrels). In: Ruf T, Bieber C, Arnold W, Millesi E (eds). *Living in a seasonal world: thermoregulatory and metabolic adaptations*. Springer, Heidelberg, 519-529.

Healy, J.E., *Burdett, K.A., Buck, C.L., Florant, G.L., 2012. Sex differences in torpor patterns during natural hibernation in golden-mantled ground squirrels (*Callospermophilus lateralis*). *J. Mamm.* 93 (3) 751-758.

Florant, G.L., **Healy, J.E.**, 2012. The regulation of food intake in mammalian hibernators: a review. *J. Comp. Physiol. B* 182 (4) 451-467.

Healy, J.E., *Gearhart, C.N., *Bateman, J.L., Handa, R.J., Florant, G.L., 2011. AMPK and ACC change with fasting and physiological condition in euthermic and hibernating golden-mantled ground squirrels (*Callospermophilus lateralis*). *Comp. Biochem. Physiol. A Mol. Integr. Physiol.* 159 (3) 322-331.

Healy, J.E., *Bateman, J.L., *Ostrom, C.E., Florant, G.L., 2011. Peripheral ghrelin stimulates feeding behavior and positive energy balance in a sciurid hibernator. *Horm. Behav.* 59 (4): 512-519.

Florant, G.L., *Fenn, A.M., **Healy, J.E.**, Wilkerson, G.K., Handa, R.J., 2010. To Eat or Not to Eat: The effect of AICAR on food intake regulation in yellow-bellied marmots (*Marmota flaviventris*). *J. Exp. Biol.* 213: 2031-2037.

Healy, J.E., *Ostrom, C.E., Wilkerson, G.K., Florant, G.L., 2010. Plasma ghrelin concentrations change with physiological state in a sciurid hibernator (*Spermophilus lateralis*). *Gen. Comp. Endocrinol.* 166 (2): 372-378.

Healy, J.E., *Richter, M.M., *Suu, L., Fried, S.K., Florant, G.L., 2008. Changes in serum leptin concentrations with fat mass in golden-mantled ground squirrels (*Spermophilus lateralis*). In:

Lovegrove, B.G. and McKechnie, A.E. (eds.). *Hypometabolism in animals: torpor, hibernation and cryobiology*. University of KwaZulu-Natal, Pietermaritzburg.

* indicates undergraduate co-author

Undergraduate Honors Theses mentored

*VanVuuren, D., **Healy, J.E.** Investigating Cancer-Associated Proteins During Hibernation in the Thirteen-lined Ground Squirrel (Austin College Honors thesis published April 2024).

*Myers, A.J., **Healy, J.E.** Thirteen-lined ground squirrels retain spatial memory through hibernation. (Austin College Honors thesis published April 2023, in review at *BIOS*).

*Solis, E.A., **Healy, J.E.** Evaluation of the relationship between a high-fat diet & gut microbiome diversity in thirteen-lined ground squirrels (*Ictidomys tridecemlineatus*). (Austin College Honors thesis published April 2022).

*Dickerson, H., **Healy, J.E.** A 50 year restoration difference increased small mammal abundance, but not diversity in blackland prairie. (Austin College Honors thesis published April 2021).

Abstracts & Papers presented

***Healy-LaPrice, J.E.** Fostering International Collaboration in Ecophysiology Research with NSF IRES (International Research Experience for Students). In: 17th International Hibernation Symposium, Mont Tremblant, Quebec, Canada, July 2024 (poster)

*VanVuuren, D., **Healy, J.E.** (2024). Presented at AC Biology Department Seminar series, ACSC, Texas Academy of Sciences annual meeting, Beta Beta Beta South Central Regional Meeting (talk)

*McGill, G., **Healy, J.E.** Small Mammal Presence On Soil and Vegetation in The Blackland Prairie. In: ACSC March 2024 (poster)

*Nguyen, P., Koral, A., **Healy, J.E.** Evaluation of the Effects of Estradiol Implants on Presence of Estrogen Receptors in the Arcuate Nucleus of the Thirteen-lined Ground Squirrel. In: ACSC March 2024 (poster)

*Myers, A.J., **Healy, J.E.** Thirteen-lined ground squirrels retain spatial memory through hibernation. (2023). Presented at AC Biology Department Seminar series, ACSC, Texas Society of Mammalogists annual meeting (winner of Rollin H. Baker Award for Best Undergraduate Student Presentation in Classical Mammalogy) (talk)

*Avent, E., **Healy, J.E.** Effect of anthropogenic noise on fox squirrel foraging behavior. In: ACSC March 2023 (poster)

*LeBlanc, M., **Healy, J.E.** Fox Squirrel Acorn Preferences and Behaviors on a College Campus. In: ACSC March 2023 (poster)

*Stellman, D., **Healy, J.E.** How Mammal Presence Shapes the Soil, Plant, and Invertebrate Ecology of the Blackland Prairie. In: ACSC March 2023 (poster)

*Coreas, C., **Healy, J.E.** Result of mammal survey at Hagerman National Wildlife Refuge. In: ACSC March 2023 (poster)

*Solis, E.A., **Healy, J.E.** Evaluation of the relationship between a high-fat diet & gut microbiome diversity in thirteen-lined ground squirrels (*Ictidomys tridecemlineatus*). (2022). Presented at AC Biology Department Seminar series, ACSC, Texas Society of Mammalogists annual meeting (winner of Bobby Baker Award for Best Undergraduate Student Presentation in Mammalian Molecular Biology), and BBB South Central Regional meeting. (talk)

*Myers, A., **Healy, J.E.**, Temporal changes in mammalian carnivore distribution in the Texas Blackland Prairies. In: ACSC March 2022 (poster)

*Malone, K., **Healy, J.E.** Species distributions of small mammals in the Blackland Prairie ecoregion change over time. In: ACSC March 2022 (poster)

*Maeng, A., **Healy, J.E.** Presence of Deer Mice (*Peromyscus maniculatus*) and Hantavirus Cases Correlated with Human Population Densities in Texas. In: ACSC March 2022 (poster)

*Davis, E., **Healy, J.E.** Effect of high fat diet on 13-lined ground squirrel food consumption and metabolic rate. In: ACSC March 2022 (poster)

Healy, J.E., *Dickerson, H., *Tessier, V., *Davis, E., *Solis, E., Armstrong, T. Latitude affects hibernation patterns in free-living ground squirrels (*Ictidomys tridecemlineatus*). In: 16th International Hibernation Symposium, Groningen, The Netherlands, August 2021 (remote) (talk)

*Dickerson, H., **Healy, J.E.** A 50 year restoration difference increased small mammal abundance, but not diversity in blackland prairie. (2021). Presented at AC Biology Department Seminar series, ACSC, Texas Society of Mammalogists annual meeting, and BBB South Central Regional meeting.

*Solis, E., *Myers, A., **Healy, J.E.** Effects of ambient temperature and gonadal hormones on torpid ground squirrels. In: ACSC March 2021 (poster)

*Davis, E., *Dickerson, H., *Solis, E., *Myers, A., **Healy, J.E.** Life history and hibernation patterns of thirteen-lined ground squirrels across a latitudinal range. In: ACSC March 2021 (poster)

*Dickerson, H., *Davis, E., *Armstrong, T., **Healy, J.E.** Evaluating life characteristics of *Ictidomys tridecemlineatus* across a latitudinal range. In: Texas Society of Mammalogists Annual Meeting, Junction, TX, February 2020 (poster)

*Armstrong, T., *Dickerson, H., *Davis, E., **Healy, J.E.** Implication of Choice of Burrow Location in the Thirteen Lined Ground Squirrel (*Ictidomys tridecemlineatus*). In: Society for Integrative & Comparative Biology Annual Meeting, Austin, TX, January 2020 (poster) (also presented at Texas Society of Mammalogists Annual Meeting in Junction, TX in February 2020)

*Martinez, M., **Healy, J.E.** Estradiol Effects on Hibernating Physiology of Ground Squirrels. In: Beta Beta Beta South Central Regional Conference, Cedar Hill, TX, April 2019 (talk) (also presented at ACSC March 2019)

*Jacob, L., *Armstrong, T., *Martinez, M., **Healy, J.E.**, Estradiol May Not be Anorexigenic in Hibernators. In: Texas Academy of Sciences Annual Meeting, Brownwood, TX March 2019 (poster) (also presented at ACSC March 2019)

*Apgar, L., *Kortikere, S., *Myles, M., **Healy, J.E.** The Effects of Estradiol in Pre-Hibernation Thirteen Lined Ground Squirrels. In: Texas Society of Mammalogists Annual Meeting, Junction, TX, February 2019 (poster) (also presented at ACSC March 2019)

*Martinez, M., **Healy, J.E.** Effects of a high fat diet on ghrelin concentrations within thirteen-lined ground squirrels (*Ictidomys tridecemlineatus*). In: SACNAS National Diversity in STEM Conference, San Antonio, TX October 2018 (Poster)

Barton, L., **Healy, J.E.** Multiple Access Points for Research Engagement Encourages Student Success. Council on Undergraduate Research Biennial Conference, Washington, D.C., June 2018 (talk)

Barton, L., **Healy, J.E.** Developing Community among Undergraduate Research Students at a Primarily Undergraduate Institution. Council on Undergraduate Research Biennial Conference, Washington, D.C., June 2018 (poster)

*Moran, M., **Healy, J.E.** The relationship of small mammals & the community structure of invertebrates & vegetation in blackland prairie restoration site. In: Texas Society of Mammalogists Annual Meeting, Junction, TX March 2018 (Talk) (winner of Rollin H. Baker Award for Best Undergraduate Student Presentation in Classical Mammalogy)

*Moran, M., **Healy, J.E.** The relationship of small mammals & the community structure of invertebrates & vegetation in blackland prairie restoration site. In: Austin College Student Scholarship Conference, Sherman, TX March 2018 (Poster)

*Martinez, M., **Healy, J.E.** Effects of a high fat diet on ghrelin concentrations within thirteen-lined ground squirrels (*Ictidomys tridecemlineatus*). In: Austin College Student Scholarship Conference, Sherman, TX March 2018 (Poster)

*Tanner, J., *Hoffman, A., **Healy, J.E.** Dietary effects on ghrelin and energy balance on hibernating ground squirrels. In: Austin College Student Scholarship Conference, Sherman, TX March 2017 (Poster)

*Brem, E., *Hoffman, A., **Healy, J.E.** High fat diet increases serum estradiol in hibernator *Callospermophilus lateralis*. In: Austin College Student Scholarship Conference, Sherman, TX March 2017 (Poster)

*Krueger, S., **Healy, J.E.** Effects of a high fat diet on adiponectin and AdipoR1 in *Callospermophilus lateralis*. In: Texas Society of Mammalogists Annual Meeting, Junction, TX February 2017 (Talk) (winner of Bobby Baker Award for Best Undergraduate Student Presentation in Mammalian Molecular Biology)

Healy, J.E., *Brem, E., *Hoffman, A., *Groover, I., *Krueger, S., Florant, G.L., 2016. High fat diet affects energy balance in prehibernatory golden-mantled ground squirrels. In: 15th International Hibernation Symposium, Las Vegas, NV August 2016 (Talk)

*Krueger, S., *Gaddis, A., *Groover, I., **Healy, J.E.**, 2016. Effects of a high fat diet on physiological parameters in prehibernatory golden-mantled ground squirrels. In: Central Ecology & Evolution Conference, Norman, OK April 2016 (Talk)

*Williamson, L., *Gaddis, A., **Healy, J.E.**, 2016. Ghrelin & estradiol as indicators of energy levels in ground squirrels that hibernate. In: Austin College Student Scholarship Conference, Sherman, TX March 2016 (Poster)

*Groover, I., *Krueger, S., *Gaddis, A., **Healy, J.E.**, 2016. Effects of a high fat diet on physiological parameters in prehibernatory golden-mantled ground squirrels. In: Austin College Student Scholarship Conference, Sherman, TX March 2016 (Poster)

*Keene, P., *Privitera, G., **Healy, J.E.**, 2015. Energy balance in ground squirrels that hibernate. In: Austin College Student Scholarship Conference March 2015 (Poster)

*Burdick, K., *Massey, R., *Porter, A., **Healy, J.E.**, 2014. Examination of the physiological state of prehibernatory Golden-Mantled Ground Squirrels. In: Austin College Student Scholarship Conference March 2014 (Poster)

*Kinser, T., **Healy, J.E.**, 2014. The relationship of small mammals with the invertebrate community of the blackland prairie. In: Austin College Student Scholarship Conference March 2014 (Talk)

Healy, J.E., Florant, G.L., 2012. Ghrelin, leptin, and fatty acids in free-living *Callospermophilus lateralis* (Golden-mantled ground squirrels). In: 14th International Hibernation Symposium, Vienna, Austria (Talk).

Healy, J.E., Handa, R.J., 2012. Estradiol inhibits AMPK and LKB1 in cultured hypothalamic cells. In: Proceedings of ENDO 2012, Houston, TX (Poster).

Healy, J.E., *Bateman, J.L., *Gearhart, C.N., *Ostrom, C.E., Florant, G.L., 2011. Peripheral ghrelin stimulates feeding and positive energy balance in a sciurid hibernator. In: Annual Meeting of the Society for Integrative and Comparative Biology (SICB), Salt Lake City, UT. (Talk)

*Bateman, J.L., **Healy, J.E.**, Florant, G.L., Handa, R.J., 2011. AMP-activated protein kinase: State-dependent changes in expression in the golden-mantled ground squirrel, *C. lateralis*. In: Annual Meeting of the Society for Integrative and Comparative Biology (SICB), Salt Lake City, UT. (Poster)

*Burdett, K.A., **Healy, J.E.**, Buck, C.L., Florant, G.L., 2011. Torpor patterns and non-esterified fatty acids (NEFA) levels in golden-mantled ground squirrels (*Callospermophilus lateralis*) under natural conditions. In: Annual Meeting of the Society for Integrative and Comparative Biology (SICB), Salt Lake City, UT. (Poster)

*Gearhart, C.G., **Healy, J.E.**, Florant, G.L., 2011. Changes in expression and phosphorylation of AMPK and ACC in the hibernating golden-mantled ground squirrel (*C. lateralis*). In: Annual Meeting of the Society for Integrative and Comparative Biology (SICB), Salt Lake City, UT. (Poster)

*Ostrom, C.E., **Healy, J.E.**, Florant, G.L., 2011. Annual changes in activity budgets, body composition, and serum leptin of golden-mantled ground squirrels. In: Annual Meeting of the Society for Integrative and Comparative Biology (SICB), Salt Lake City, UT. (Poster)

*Gearhart, C.N., **Healy, J.E.**, Florant, G.L., 2010. Changes in expression and phosphorylation of AMPK and ACC in the hibernating golden-mantled ground squirrel (*Callospermophilus lateralis*). In: Creativity in Undergraduate Research, Colorado State University, Fort Collins, CO. (Poster)

Healy, J.E., *Ostrom, C.E., *Gearhart, C.N., Florant, G.L., 2010. Effects of peripheral ghrelin injections on food intake and behavior of golden-mantled ground squirrels (*Spermophilus lateralis*). In: Annual Meeting of the Society for Integrative and Comparative Biology (SICB), Seattle, WA. (Talk)

*Bateman, J.L., **Healy, J.E.**, Florant, G.L., Handa, R.J., 2010. Investigation of seasonal AMP-activated protein kinase expression in golden-mantled ground squirrels (*Spermophilus lateralis*). In: Annual Meeting of the Society for Integrative and Comparative Biology (SICB), Seattle, WA. (Poster)

Healy, J.E., *Diaz, Y., Florant, G.L., 2009. Expression and phosphorylation of AMPK and ACC in fed and fasted golden-mantled ground squirrels (GMGS). In: Annual Meeting of the Society for Integrative and Comparative Biology (SICB), Boston, MA. (Talk)

*Ostrom, C.E. **Healy, J.E.**, Florant, G.L., 2009. Activity budgets of golden-mantled ground squirrels (*Spermophilus lateralis*). In: Creativity in Undergraduate Research, Colorado State University, Fort Collins, CO. (Poster)

Healy JE, *Craven H, Florant GL., 2008. Serum ghrelin levels in golden-mantled ground squirrels (*Spermophilus lateralis*). In: Annual Meeting of the Society for Integrative and Comparative Biology (SICB), San Antonio, TX. (Poster)

* indicates undergraduate co-author

Funding/Grant Proposals

NSF-ORCC Program. Title: "Collaborative Research: ORCC: Disentangling Genetic and Non-Genetic Drivers of Mammalian Hibernation to Predict Species Response to Climate Change". Amount requested: \$1,876,998 total for collaborative grant, \$150,636 to W&L (\$130,229 direct costs; \$20,404 indirect costs); submitted 23 January 2025. Co-PIs: Mallory Ballinger, Scott Cooper, Sylvain Giroud, Jessica LaPrice. Status: not funded

09/09/22 – 09/08/25

NSF-IRES Program. Title "IRES Track I: Exploring the ecophysiology of energy balance in Vienna, Austria". Amount requested: \$294,696 (\$288,133 direct costs; \$6,583 indirect costs); submitted 09/05/2019. PI: Jessica Healy. Matt Findlay is the external evaluator for this proposal. Result: funded 9 September 2022. Years supported 2022 – 2025.

NSF-IOS-Physiological Mechanisms and Biomechanics (PMB) Program "

IMAGiNE: variation in ground squirrel hibernation patterns and genetic regulation with latitude. Amount requested: \$577,478; submitted 08/06/20; re-submitted 9/1/21; resubmitted 11/14/22. PI: Scott Cooper, Co-PI's Jessica Healy, Katharine Grabek, Jim Staples. Status: not funded

05/20/19 – 05/20/20

"Life history characteristics of free-living thirteen-lined ground squirrels across latitude"

Research grant from Western North American Naturalist

Total direct costs: \$2000

NEH Humanities Connections Proposal. Title: "Cultivating Civic Empathy: A Humanities-Based Response to the Nation's Crisis of Care". Amount requested: \$100,000; Submitted 10/17/2018. PI: Jeremy Posadas. The following faculty are senior personnel on this proposal: Tom Blake, Felix Harcourt, Scott Langton, Brian Watkins, Lisa Brown, Nate Bigelow, Jessica Healy, Andrea Overbay. Result: not funded

09/1/17 – 08/31/20

NSF-IUSE Program. Title “Developing Science Leaders Through Applied Learning Experiences and Reflection” Amount requested: \$299,999; Submitted by John Richardson (PI) on November 2, 2016. The following faculty are senior personnel on this proposal: Lisa Brown, Steve Goldsmith, Lance Barton, David Aiello, Jessica Healy, Brad Smucker, Catie Patterson, Andra Petrean, Ryan Felix. Karla McCain is the external evaluator for this proposal. Result: Funded as of May 2017.

06/15/17 – 05/1/20

NSF S-STEM program: “Austin College’s Career Empowering STEM Scholars (ACCESS) Program” S-STEM grant to AC. Amount requested: \$440,000; Submitted by Stephanie Gould & Lisa Brown (co-PIs) on September 18, 2015. The following faculty and staff are senior personnel on this proposal: Amanda Kisselle, Brad Smucker, Jessica Healy, Kelly Reed, John Richardson, Andrea Overbay, David Whelan, and Ryan Felix. Karla McCain is the external evaluator for this proposal. Result: Funded as of June 2016.

NSF-IUSE Program; Proposal #1611784. Title “Developing Science Leaders Through Applied Learning Experiences and Reflection” Amount requested: \$298,717; Submitted by Stephanie Gould (PI) on November 3, 2015. The following faculty are senior personnel on this proposal: Lance Barton, David Aiello, Keith Kisselle, Kelly Reed, Jessica Healy, Brad Smucker, Jim Hebda, Ryan Felix, Andrew Carr, and John Richardson. Karla McCain is the external evaluator for this proposal. Result: Not funded, but resubmitted in Fall 2016.

03/15/12 – 08/24/12 (PI, 100%)

“Interaction of Estrogen and AMPK in the Hypothalamus”

NIH F32 Postdoctoral Fellowship National Research Service Award

Annual Direct Costs: \$49,214

03/15/07 (PI, 100%)

“Plasma ghrelin in hibernating mammals”

Sigma Xi grant-in-aid-of-research

Total Direct Costs: \$750

Departmental/community/professional service

Professional Societies Service & Leadership:

- Board member of International Hibernation Society (Chair of Student Training & Engagement 2022-2024, Secretary 2024 – current)
- President of Texas Society of Mammalogists 2023-2024
- President-Elect for Texas Society of Mammalogists 2022-23 (Chair of Committee for Student Honoraria)
- Poster/talks judge at Texas Society of Mammalogists annual meeting (Spring 2017, 2020, 2022, 2023)
- Reviewer for *Integrative & Comparative Biology* (2025-current)
- Reviewer for *Mammal Research* (2025-current)

- Reviewer for *Ecological & Evolutionary Physiology* (formerly *Physiological & Biochemical Zoology* (2023 – current)
- Reviewer for *American Journal of Physiology Regulatory Integrative Comparative Physiology* (2023 – current)
- Reviewer for *Southwestern Naturalist* (2021 – current)
- Reviewer for *Western North American Naturalist* (2020- current)
- Reviewer for *Chronobiology International and General & Comparative Endocrinology Journals* 2011-2012
- Reviewer for *American Journal of Physiology* 2006-2010

Invited community talks:

- Yearly talks on mammals to general public at Hagerman National Wildlife Refuge, Denison TX (2013 – 2024)
- Yearly training sessions for Bluestem Master Naturalists, Sherman TX (Fall 2013 - 2024)
- Invited talk at Northern Michigan University in Marquette, Michigan (Summer 2024)
- Invited talk at Western Ontario University in London, Ontario, Canada (Fall 2019)
- Invited talk at Research Institute of Wildlife Ecology in Vienna, Austria (Spring 2019)
- Invited talk at Biology Department seminar at Trinity University (Fall 2017)

Departmental Service & Leadership (Washington & Lee University):

- Organizer of Biology Department Seminar Series (Fall 2024 – current)
- Organizer of joint VMI/W&L Student Research Seminar Series (Winter 2025 – current)

Departmental Service & Leadership (Austin College):

- Biology Department Chair (Summer 2023 – Spring 2024)
- Biology Interest Group (BIG) co-advisor (Fall 2023 – Spring 2024)
- Beta Beta Beta faculty advisor Delta Rho chapter (Spring 2015 – Spring 2021)

University-wide Service & Leadership (Washington & Lee University):

- Co-organizer WIMSE (Women in Mathematics, Science, and Engineering) Teacher-Scholar Development Cohort (Fall 2025 – current)
- Member AOL Committee (Assurance of Learning) (Fall 2025 – current)

College-wide service (Austin College):

- Faculty Moderator (2019-2022)
- Mellon ‘Pathways to a Just Society’ Faculty Learning Community participant (Fall 2022 & Spring 2024)
- Anti-Racist Allies Faculty Learning Community discussion leader (Spring 2021)
- NSF ACCESS program faculty participant (Fall 2017 – 2021)
- STAR Leadership program faculty participant (Spring 2016– Spring 2024)
- Rho Lambda Theta faculty advisor (Spring 2015 – Spring 2024)
- HEAT faculty advisor (Fall 2016 – Spring 2017)

Committee Leadership & Membership (Austin College):

- Executive Committee of the Faculty (Fall 2022 – Spring 2023)
- Director of Applied Learning (Fall 2021 – Summer 2023)
- Landscape Taskforce (Fall 2022 – Spring 2023)
- Admissions Committee (Fall 2019 – Spring 2023)
- Institutional Biosafety Committee (Fall 2016 – Spring 2024)
- Rhodes Marshall Gates scholarship committee (Fall 2015- Spring 2023)
- Honors Committee (Fall 2012 – Spring 2023)
- Environmental Studies Steering Committee (Fall 2013 – Spring 2024)
- Johnson Center Committee (fall 2019 – Spring 2022)
- Sciences Summer Research Program coordinator (Spring 2016 – Spring 2021)
- CREATE Committee for student research (Fall 2016 – spring 2021 (Chair in Spring 2018))
- Faculty Compensation Task Force & Committee (Spring 2014-Spring 2016, Fall 2017-Spring 2018)

College-wide service (Colorado State University)

- Judged posters and oral sessions at Front Range Student Ecology Symposium 2009-2010
- Served as co-advisor to NIH REU summer students in absence of advisor summer 2008
- Served as student representative for 2008 search committee for Integrative Vertebrate Physiologist position at CSU
- Judged posters at NIDDK Step-Up Conference 2006 (Fort Collins, CO) & 2008 (Honolulu, HI)
- Lecture at public school in Newton, Iowa on bats and small mammal research in 2007

Undergraduate students trained (2007-current)

- 1-Melanie Richter, PhD (Undergraduate lab mentee CSU 2006-2007)
- 2-Ashley Fenn, PhD (Undergraduate lab mentee CSU 2007-2009)
- 3-Vanessa Selwyn, PhD (Undergraduate lab mentee CSU 2006)
- 4-Irene Tsumana (Undergraduate lab mentee CSU 2007)
- 5-Heather Craven (Undergraduate lab mentee CSU 2008)
- 6-Cara Ostrom, MS (Undergraduate lab mentee CSU 2008-2010)
- 7-Cassandra Gearhart, MS (Undergraduate lab mentee CSU 2008-2010)
- 8-Jenna Bateman, MD (Undergraduate lab mentee CSU 2008-2010), 2016 graduate of Creighton Medical School
- 9-Nicole Prentice (Undergraduate lab mentee CSU 2008-2009)
- 10-Melanie Hoobler (Undergraduate lab mentee CSU 2010)
- 11-Danielle Wantuck (Undergraduate lab mentee CSU 2010)
- 12-Dillon Lomax (Undergraduate lab mentee UA COM 2011)
- 13-Annie Porter (Undergraduate lab trainee Austin College Summer 2013-Fall 2013)
- 14-Kalli Burdick, MD (Undergraduate lab trainee AC Summer 2013-Fall 2014)
- 15-Evan Baker (Undergraduate lab trainee AC Summer 2013)
- 16-Rose Massey (Undergraduate lab trainee AC Fall 2013-Spring 2014)
- 17-Tal Kinser, PhD (Undergraduate lab trainee AC Fall 2013)
- 18-Katie Bosler (Undergraduate lab trainee AC Spring 2014)
- 19-Giovanna Privitera, DDS (Undergraduate lab trainee AC Summer 2014)
- 20-Peter Keene, MS (Undergraduate lab trainee AC Summer 2014)

21-Tim Anderson, MS (Undergraduate lab trainee AC Fall 2014-Spring 2015)

22-Isaac Groover, MS (Undergraduate lab trainee AC Fall 2014-Spring 2016)

23-Siena Krueger (Undergraduate lab trainee AC Spring 2015-Spring 2017)

24-Lee Williamson (Undergraduate lab trainee AC Summer 2015)

25-Austin Gaddis (Undergraduate lab trainee AC Summer 2015-Spring 2016)

26-Ethan Brem, MS (Undergraduate lab trainee AC Summer 2016-Spring 2017)

27-Alexandra Hoffman, MD (Undergraduate lab trainee AC Summer 2016)

28-Jordan Tanner, MS (Undergraduate lab trainee AC Fall 2016-Spring 2017)

29-Sneha Reddy (Undergraduate lab trainee AC Spring 2017)

30-Michael Moran (Undergraduate lab trainee AC Fall 2017)

31-Mindalena Adams (Undergraduate lab trainee AC Spring 2018)

32-Liberte Manirakiza (Undergraduate lab trainee AC Fall 2017-Spring 2018)

33-Monica Martinez (Undergraduate lab trainee AC Fall 2017-Spring 2019), MD candidate at UTMB

34-Lisha Jacob (Undergraduate lab trainee AC Spring 2018-Spring 2019)

35-Lindsay Apgar (Undergraduate lab trainee AC Summer 2018-Spring 2019)

36-Siddharth Kortikere (Undergraduate lab trainee AC Summer 2018-Spring 2019), MD candidate at Sam Houston State University Medical School

37-Taqwa Armstrong (Undergraduate lab trainee AC Fall 2018-Spring 2020)

38-Hallie Dickerson (Undergraduate lab trainee AC Summer 2019-Spring 2021)

39-Emily Davis (Undergraduate lab trainee AC Summer 2019-Fall 2021)

40-Veronique Tessier (Undergraduate lab trainee AC Summer 2020)

41-Emma Solis (Undergraduate lab trainee AC Summer 2020-Spring 2022)

42-Adam Myers (Undergraduate lab trainee AC Fall 2020-Spring 2023), PhD candidate at UNLV

43-Kaitlyn Malone (Undergraduate lab trainee AC Summer 2021)

44-Abbigal Maeng (Undergraduate lab trainee AC Summer 2021-Spring 2022)

45-Carolina Coreas (Undergraduate lab trainee AC Fall 2021-Spring 2023)

46-Elena ('Eli') Aventa (Undergraduate lab trainee AC Fall 2022)

47-Patrick ('Davis') Stellman (Undergraduate lab trainee AC Fall 2022)

48-Madeline Leblanc (Undergraduate lab trainee AC Fall 2022-Spring 2023)

49-Phoebe Nguyen (Undergraduate lab trainee AC Spring 2023–Spring 2024), DDS candidate at Woody L Hunt School of Dental Medicine, Texas Tech Univ Health Sciences Center El Paso

50-Danya Van Vuuren (Undergraduate lab trainee AC Fall 2023–Spring 2024), PhD candidate at Mayo

51-Gabrielle McGill (Undergraduate lab trainee AC Fall 2023–Spring 2024)

52-Ayda 'Melisa' Koral (Undergraduate lab trainee AC Spring 2024)

53-Kylee Cross (Undergraduate lab trainee W&L Winter 2025 - current)

54-Brian Lee (Undergraduate lab trainee W&L Winter 2025 - current)

55-Christina Ziccardi (Undergraduate lab trainee W&L Summer 2025 - current)

56-Whitney Obialor (Undergraduate lab trainee W&L Summer 2025 - current)

57-Lia Rodriguez-Moreno (Undergraduate lab trainee W&L Summer 2025)

58-Brennan Stout (Undergraduate lab trainee W&L Winter 2026 - current)

Research skills

- Small mammal field survey
- Small mammal trapping
- Small mammal behavioral analysis
- Basic small mammal surgery (survival and non-survival)
- Habitat survey
- Water quality analysis
- Usable knowledge of ArcGIS
- Usable knowledge of SAS & R statistical software
- Biology lab techniques (western blotting, enzyme immunoassay, radioimmunoassay, immunohistochemistry, neural cryosectioning, cell culture)

Research interests: My research interests are primarily involved with examining mammalian ecophysiology, particularly energy balance in hibernating mammals. Mammals that hibernate (hibernators) undergo a robust circannual cycle of lipogenesis and lipolysis, which translates into opposing seasons of obesity and anorexia driven by changes in food intake. What makes hibernators particularly interesting as models of obesity is the fact that they do not exhibit the traditional pathologies associated with obesity, such as diabetes and atherosclerosis.

The research that I am conducting currently with students involves hormones related to the regulation of energy balance—interactions between food intake hormones like ghrelin and leptin and sex hormones like estradiol and testosterone are as yet poorly understood in hibernators. This research has potential implications both for human health (non-pathologic obesity) and zoophysiology (controls of hibernation). My current research projects involve: 1) determining whether estradiol acts as an anorexigenic hormone in captive female hibernators and 2) comparative analysis of energy balance regulation of free-living thirteen-lined ground squirrels over a latitudinal gradient.

Professional References:

Name: Loriann Garcia, PhD
Title: Associate Director for STEM Student Success
Address: University of Virginia
Phone (office):
Email: lgarcia@virginia.edu
Relationship: former AC colleague

Name: Lance Barton, PhD
Title: Director of the Office of Undergraduate Research
Address: UNC Charlotte
Undergraduate Education
Charlotte, NC 28223
Phone (office): 704-687-5316
Email: lbarton9@charlotte.edu

Relationship: former AC colleague, former Chair of department (until spring 2023)

Name: Steve Goldsmith, PhD

Title: Professor of Biology

Address: Austin College

900 N. Grand Ave. Suite 61611

Sherman, TX 75090

Phone (office): 903-813-2320

Email: sgoldsmith@austincollege.edu

Relationship: former AC colleague, former Dean of Sciences

Name: Gregory L. Florant, Ph.D.

Title: Professor of Biology

Address: Department of Biology

Colorado State University

1878 Campus Delivery

Fort Collins, CO 80523

Phone (office): 970-491-7627

Email: gregory.florant@colostate.edu

Relationship: Ph.D. Advisor

Sylvain Giroud, PhD

Title: Assistant Professor of Biology

Address: Department of Biology

Northern Michigan University

2114 Weston Hall

Marquette, MI

Phone (office): 906-227-2145

Email: sgiroud@nmu.edu

Relationship: colleague, hibernation researcher, Co-PI on NSF grant proposal

Name: Scott Cooper, PhD

Title: Professor of Biology & Director of Undergraduate Research & Creativity

Address: Department of Biology

University of Wisconsin – La Crosse

3022 Cowley Hall

La Crosse, WI 54601

Phone (office): 608-785-6983

Email: scooper@uwlax.edu

Relationship: colleague, hibernation researcher, Co-PI on NSF grant proposal

Name: Jim Staples, PhD

Title: Professor of Biology

Address: Department of Biology

University of Western Ontario
Biological & Geological Sciences 3020
London, Ontario, Canada, N6A 5B7
Phone: 519-661-3935

Email: jfstaple@uwo.ca

Relationship: colleague, hibernation researcher, collaborator on NSF grant proposal