

## Kathryn Wilsterman

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### CV Highlights

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- 19 peer-reviewed publications
- 13 undergraduate trainees
- 1 funded external award (Co-I; \$440,715)
- Over \$300,000 awarded in fellowships & small research grants to-date
- Pending NIH F32 (impact score: 11, 1<sup>st</sup> percentile)

### Training & Education

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2019-*curr.* NSF Post-doctoral Fellow, University of Montana, Missoula MT  
2014-2019 PhD in Integrative Biology, University of California, Berkeley, Berkeley CA  
2010-2014 B.Sc., Biology, Bucknell University, Lewisburg PA

### Peer-reviewed Publications

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\*\* = Undergraduate mentee co-authors

19. **Wilsterman, K**, MA Ballinger, and CM Williams. A universal framework for animal dormancy. *Func. Ecol.* In Press.
18. Robertson, CE, and **K Wilsterman**. Developmental and reproductive physiology of high-altitude small mammals: challenges and evolutionary innovations. *J. Exp. Biol.* In Press 10/2020.
17. Burnett, NP, EE King, MK Salcedo, RL Tanner, and **K Wilsterman**. 2020. Letter to the Editor: Conference scheduling undermines diversity efforts. *Nature Ecol. & Evol.* **4**, 1283–1284
16. **Wilsterman, K**, MM Alonge, DK Ernst, CA Limber\*\*, LA Treidel, and GE Bentley. 2020. Flexibility in the Emergency Life-history Stage: Acute food restriction prevents sickness behavior but not the immune response. *Proc. Royal Soc. B.* 287(1929): 20200842.
15. **Wilsterman, K**, MM Alonge, X Bao\*\*, KA Conner\*\*, and GE Bentley. 2020. Food access modifies GnIH, but not CRH, cell number in the hypothalamus in a female songbird. *Gen. Comp. Endocrinol.* 292: 113438.
14. Hernández MaC, Á Navarro-Castilla, **K Wilsterman**, GE Bentley, and I Barja. 2019. When food access is challenging: evidence of wood mice ability to balance energy budget under predation risk and physiological stress reactions. *Behav. Ecol. & Sociobiol.* 73:145.
13. **Wilsterman, K**, X Bao\*\*, AD Estrada\*\*, P Comizzoli, and GE Bentley. 2019. Sex steroids influence organizational but not functional decidualization of feline endometrial epithelial cells in a 3D culture system. *Biol. Repro.* 101(5): 906-915.
12. **Wilsterman, K**, GE Bentley, and P Comizzoli. 2019. RFRP-3 promotes basal lamina degradation and cellular death while increasing progesterone secretion in cultured cat ovarian follicles. *PeerJ.* 7: e7540
11. Williams, CT, H Chmura, V Zhang, D Dillon, **K Wilsterman**, BM Barnes, and CL Buck. 2019. Environmental heterogeneity affects seasonal variation in thyroid hormone physiology of free-living arctic ground squirrels. *Can. J. Zool.* 97(9): 783-790.
10. **Wilsterman K**, N Gotlieb, LJ Kriegsfeld, and GE Bentley. 2018. Pregnancy stage determines the effect of chronic stress on ovarian progesterone synthesis. *Amer. J. Physiol. - Endo. & Metab.* 315(5): E987-E994.
09. Squicciarini, V, R Riquelme, **K Wilsterman**, GE Bentley, and HE Lara. 2018. Role of RFRP-3 in the development of cold stress-induced polycystic ovary phenotype in rats. *J. Endocrinol.* 239(1): 81-91.
08. Grant, AD, **K Wilsterman**, BL Smarr, and LJ Kriegsfeld. 2018. Evidence for a coupled oscillator model of endocrine ultradian rhythms. *J. Biol. Rhy.* 33(5): 475-496.
07. **Wilsterman, K**, RM Calisi, NL McGuire, and GE Bentley. 2018. "Seasonality: Hormones and Behavior." Chapter in: *Encyclopedia of Animal Behavior, 2<sup>nd</sup> Edition* Ed. J Choe, Ed. RJ Nelson. Academic Press, Elsevier.
06. **Wilsterman, K**, A Pepper\*\*, and GE Bentley. 2017. Low glucose availability stimulates progesterone production by mouse ovaries in vitro. *J. Exp. Biol.* 220, 4583-4588 doi:10.1242/jeb.164384
05. Bentley, GE, **K Wilsterman**, DK Ernst, SE Lynn, MJ Dickens, RM Calisi, LJ Kriegsfeld, D Kaufer, AC Geraghty, D viviD, NL McGuire, and K Tsutsui. 2017. Neural versus gonadal GnIH: Are they independent systems? A mini-review. *Integr. & Comp. Biol.* (6):1194-1203. DOI: 10.1093/icb/icx085.

## Kathryn Wilsterman

04. Williams, CT, **K Wilsterman**, V Zhang\*\*, J Moore, BM Barnes, and CL Buck. 2016. The secret life of ground squirrels: accelerometry reveals sex-dependent plasticity in above-ground activity. *Royal Soc. Open Sci.* 3: 160404. DOI: 10.1098/rsos.160404
03. **Wilsterman, K**, CT Williams, BB Barnes, and CL Buck. 2015. Energy regulation in context: Free-living female arctic ground squirrels modulate the relationship between thyroid hormones and activity among life history stages. *Horm. & Behav.* 75: 111-119.
02. **Wilsterman, K**, AD Mast, TH Luu, and MF Haussmann. 2015. The timing of embryonic exposure to elevated temperature alters stress endocrinology in domestic chickens (*Gallus domesticus*). *Gen. Comp. Endo.* 212: 10-16.
01. Williams, CT, **K Wilsterman**, AD Kelley, AR Breton, H Stark, MM Humphries, AG McAdam, BM Barnes, S Boutin, and CL Buck. 2014. Light loggers reveal weather-driven changes in the daily activity patterns of arboreal and semi-fossorial rodents. *J. Mamm.* 95: 1230-1239.

## External Awards

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2020-22	<b>National Institute of Health R15 AREA Award (1 R15 HD103925 01)</b>	\$440,715
	“Understanding the etiology of altitude-related obstetric complications through evolutionary adaption”	
	Co-Investigator with PI Zachary A. Cheviron	

## Other Grants and Fellowships

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2020	- <b>NIH NRSA F32 Fellowship</b> - “Understanding the etiology of altitude-related obstetric complications through evolutionary adaption”	Pending
	• Impact score: 11, 1 <sup>st</sup> percentile	
2019	- <b>National Science Foundation Post-Doctoral Fellow</b>	\$138,000
	<b>UNVEIL Post-Doctoral Fellowship (Declined)</b>	Finalist
	<b>Life Sciences Research Foundation Post-Doctoral Fellow (Declined)</b>	Finalist
	<b>UNVEIL Research Support</b>	\$30,000
2018	- <b>Phi Beta Kappa Graduate Fellowship</b>	\$7,500
	<b>Graduate Student Research Allocation Committee Research Funds</b>	\$300
	<b>BURET NIH Workshop Series Participant</b>	\$500
2017	- <b>Graduate Student Research Allocation Committee Travel Funds</b>	\$250
	<b>Graduate Student Research Allocation Committee Research Funds</b>	\$300
	<b>SICB Grant-in-Aid of Research</b>	\$980
	<b>Integrative Biology Summer Research Award</b>	\$1,750
2016	- <b>SMART (Student Mentoring and Research Teams) Mentor</b>	\$2,837
	<b>Graduate Division Conference Travel Grant</b>	\$900
	<b>Sigma Xi Local Chapter Grants-in-Aid of Research (GIAR)</b>	\$500
	<b>Integrative Biology Summer Research Award</b>	\$1,750
	<b>SMART (Student Mentoring and Research Teams) Project Funding</b>	\$1,466
	<b>Graduate Student Research Allocation Committee Research Funds</b>	\$300
2015	- <b>National Science Foundation Graduate Research Fellow</b>	\$102,000
	<b>Graduate Student Research Allocation Committee Travel Funds</b>	\$250
2014	- <b>Jo Gayle Howard Fellowship</b>	\$25,000
2013	- <b>National Science Foundation Research Experience for Undergraduates</b>	\$5,000

## Awards and Honors

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|------|---|--|
| 2016 | - <b>Outstanding Graduate Student Instructor Award</b>  |  |
| 2014 | - <b>Eleanor D. Decker Prize for Women</b> – Awarded to the woman of the graduating class who best represents the ideals of intellectual maturity, personal conviction, and strength of character |  |

## Kathryn Wilsterman

### Teaching Experience

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*Cell and Molecular Biology*, Guest lecturer, Las Positas Community College (2018)  
*Comparative Animal Physiology*, Graduate Student Instructor, UC Berkeley (2015)  
*Comparative Endocrinology*, Graduate Student Instructor, Guest Lecturer, UC Berkeley (2014)  
*Hormones and Behavior*, Guest lecturer, UC Berkeley (2018)  
*Human Endocrinology*, Guest lecturer, University of San Francisco (2016, 2017)  
*Neurobiology of Stress*, Graduate Student Instructor, UC Berkeley (2018)

### Mentorship and Advising

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*Programs for which I have mentored students:*

National Institutes of Health, Bridges to Baccalaureate program Summer 2018  
SICB Broadening Participation Meeting Mentorship program Jan. 2018  
Student Mentoring and Research Teams (SMART) program Summer 2016

*Undergraduate research assistant mentees*

(UCB – UC Berkeley; UM – Univ. of Montana)

p poster presentation; \*\* manuscript co-author; § honors thesis mentees

Jaclyn Lai (UCB)	Rita Bao (UCB) **	Kirksey Cunningham (UM)
Alvin Balmeo (UCB)	Cody Limber (UCB) p§**	Jacob Albright (UM)
Aimee Pepper (UCB) p**§	Kristin Conner (UCB) p§**	Madison Atlas (UM)
Laura Reynolds (UCB)	Allegra Estrada (UCB) p**	
Emily Tang (UCB)	Hannah Johnson (UM) p§	

### Professional Service

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**Assistant Editor (non-divisional)**, Integrative and Comparative Biology (2021-2023)

**Guest Editor**, NSF Jumpstart Biology Initiative, Integrative and Comparative Biology

**Reviewer for Journals (Manuscripts)**: *Acta Biochimica et Biophysica Sinica* (1), *Behavioral Ecology* (1), *Conservation Physiology* (1), *General and Comparative Endocrinology* (4), *Journal of Assisted Reproduction and Genetics* (1), *Molecular and Cellular Endocrinology* (1), *PeerJ* (1), *Physiological and Biochemical Zoology* (1), *Scientific Reports* (1)

**Society Affiliations**: Society for the Study of Reproduction (2015 – Curr.), Society of Integrative and Comparative Biology (2013 – Curr.)

### Professional Development

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- 2020 – **Indigenous Mentoring Program Workshop**; facilitated sessions focused on sharing “knowledge about cultural humility, visiting Native students’ home communities, establishing and sustaining healthy mentor-mentee relationships, and campus and community-wide services and programs available for American Indian and Alaska Native students”. Organized by Univ. of Montana Office of Organizational Learning and Development.
- Summer Institute on Scientific Teaching**; four-day workshop focused on “evidence-based active learning strategies” to “expand and sharpen participants’ teaching skills”. Organized by Howard Hughes Medical Institute, the Yale Center for Teaching and Learning, and the Helmsley Charitable Trust.
- 2018 – **BURET (Bring out the Best in your Undergraduate Researchers: Teaching & Mentoring in Chemistry & Biology Labs) Workshop Series**; NIH-supported workshop series for graduate students and post-doctoral scholars interested in undergraduate teaching and mentoring.
- 2015-18 – **Certificate in Teaching and Learning in Higher Education**; Completed Fall 2018. Graduate Student Instruction Teaching & Resource Center.

## Kathryn Wilsterman

### Outreach

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- 2019-curr. Conferences and Broadening Participation Working Group, Founding Member  
2015-2019 UC Berkeley Expanding Your Horizons Conference (Volunteer & Committee Chair)  
2016-2017 Episode for The Graduates, Radio Talk Show on KALX 90.7  
<https://shows.acast.com/the-graduates/episodes/kate-wilsterman>  
2014-2016 Bay Area Scientists in Schools (BASIS) Volunteer

### Invited Talks

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**Wilsterman, K.** and ZA Cheviron. 2021. *Talk title TBD*. FASEB/Endocrine Society's "Stressed or Stressed Out: The Conference on Mechanisms of Allostasis". Rancho Mirage, CA.

### Contributed Conference Presentations

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\*\* = Undergraduate mentee co-authors

- Johnson, HC\*\*, **K Wilsterman**, JM Good, and ZA Cheviron. 2021. *Does adaptation to high altitude affect hypoxia-dependent structural plasticity of the placenta?*. Poster. Society for Integrative and Comparative Biology, Washington, DC (Meeting moved to virtual format).
- Gotlieb, N, **K Wilsterman**, SL Finn, M Browne, D Hu, D Cornejo, G Hutchinson, E Iwakoshi-Ukena, K Ukena, GE Bentley, and LJ Kriegsfeld. 2020. *Neural circuits and hormonal mechanisms underlying the negative impact of stress on pregnancy outcomes*. Poster. The Endocrine Society's Annual Meeting. San Francisco, CA.
- Wilsterman, K**, MM Alonge, DK Ernst, CA Limber\*\*, LA Treidel, and GE Bentley. 2019. *A test of the energy limitation hypothesis: acute food restriction prevents sickness behavior but not the immune response in female zebra finches*. Talk. Society for Integrative and Comparative Biology, Tampa, FL. **Selected for Best Student Presentation Competition** (Division of Ecoimmunology and Disease Ecology).
- Hernández M<sup>a</sup>C, Á Navarro-Castilla, **K Wilsterman**, GE Bentley, and I Barja. 2019. *How does predation risk and physiological stress response explain energy budget balance in a free-ranging rodent?* Poster. Ecology and Behaviour. Toulouse, France.
- Wilsterman, K**, GE Bentley, and P Comizzoli. 2019. *RFRP-3 Promotes Cell Death and Basal Lamina Degradation in Cultured Cat Ovarian Follicles*. Poster. Society for the Study of Reproduction, San Jose, CA.
- Estrada, AD\*\*, **K Wilsterman**, P Comizzoli, and GE Bentley. 2019. *Sex steroids alter 3D growth of feline endometrial cells in vitro*. Poster. Society for Integrative and Comparative Biology. Tampa, FL.
- Wilsterman, K**, M Ballinger, and CM Williams. 2018. *Winter dormancy in insects and mammals*. Talk. Society for Integrative and Comparative Biology, San Francisco, CA.
- Wilsterman, K**, N Gotlieb, P Comizzoli, GE Bentley, and LJ Kriegsfeld. 2017. *How does chronic stress affect ovarian function during pregnancy?* Poster. Society for the Study of Reproduction, Washington, DC.
- Wilsterman, K**, N Gotlieb, LJ Kriegsfeld, and GE Bentley. 2017. *Mapping the ovarian pathways involved in stress-induced reproductive dysfunction in mice*. Poster. Society for Integrative and Comparative Biology. New Orleans, LA.
- Pepper, AW\*\*, **K Wilsterman**, and GE Bentley. 2017. *Outside of the axis: the mammalian ovary as a distinct physiological cue integration center*. Poster. Society for Integrative and Comparative Biology. New Orleans, LA.
- Ernst, D, **K Wilsterman**, J Kumaravel, and G Bentley. 2016. *Ovarian GnIH expression and steroidogenesis in response to acute stress in a songbird*. Talk. International Symposium on Avian Endocrinology, Niagara-on-the-Lake, ON, Canada. *Also presented at Society for Integrative and Comparative Biology 2017, New Orleans, LA.*
- Wilsterman, K**, GE Bentley, DE Wildt, and P Comizzoli. 2016. *Steroid hormone synthesis by the domestic cat ovary is seasonally inhibited by gonadotropin-inhibitory hormone (GnIH)*. Poster. Society for the Study of Reproduction. San Diego, CA.
- Wilsterman, K**, P Comizzoli, and GE Bentley. 2016. *RFRP-3 expression and function in reproductive tissues of the domestic cat (Felis catus)*. Poster. Society for Integrative and Comparative Biology, Portland, OR.
- Prendergast, BJ, MJ Dickens, N Gotlieb, D Guardado, DK Ernst, LJ Kriegsfeld, KG Onishi, N Perfito, BL Smarr, **K Wilsterman**, and GE Bentley. 2015. *Immune responses of inbred laboratory mice exposed to a natural environment*. Poster. Society for Behavioral Neuroscience, Pacific Grove, CA.

Zhang, VY\*\*, CT Williams, **K Wilsterman**, and CL Buck. 2015. *Determinants of activity patterns in arctic ground squirrels of Alaska: environmental conditions more influential than sex-specific differences*. Poster. Society for Integrative and Comparative Biology 2015, West Palm Beach, FL.

**Wilsterman, K**, CT Williams, and CL Buck. 2015. *Circulating levels of thyroid hormone reflect seasonal changes in activity of free-living arctic ground squirrels*. Talk. Society for Integrative and Comparative Biology, West Palm Beach, FL

**Wilsterman K**, CT Williams, and CL Buck. 2014. *Fair-weather friends: environmental constraints on the activity of arctic ground squirrels*. Talk. Society for Integrative and Comparative Biology, Austin, TX