

# Kathryn C. Grabenstein

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Boulder, CO 80309

## EDUCATION

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**University of Colorado Boulder**, Boulder, CO **2016 - Present**  
*Doctorate Program, Ecology & Evolutionary Biology; Advisor: Dr. Scott A. Taylor*

**Cornell University**, Ithaca, NY **2010 - 2014**  
*Bachelor of Arts, Biological Sciences (Neurobiology & Behavior), cum laude*  
*Thesis: No experimental support for resource-dependent offspring sex allocation in a migratory songbird*  
Advisors: Drs. Michael S. Webster & Irby J. Lovette

## REFEREED PUBLICATIONS \*Denotes undergraduate mentee

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\*Feldmann, K., Funk, E., **Grabenstein, K.**, Jackson, D., Theodosopolous, A., Wagner, D. N. and Taylor, S. A. (2019), Recent Literature The Ascent of Birds: How Modern Science is Revealing their Stories John Reilly, 2018. Pelagic Publishing, Exeter, UK. 340 pages. ISBN 9781784271695. \$33.00 (Hardcover).. J. Field Ornithol., 90: 101-102. doi:10.1111/jofo.12286

Schroeter, I., Forrester, C., Brigham, L., Fried, E., **Grabenstein, K.**, Karban, C., McDermott, M. 2019. Diverging from the Dogma: A Call to Train Creative Thinkers in Science, *Bulletin of the Ecological Society of America*, 100(1) 1-7. doi:10.1002/bes2.1463

**Grabenstein, K.C.** & Taylor, S.A. 2018. Breaking barriers: causes, consequences, and experimental utility of human-mediated hybridization. *Trends in ecology & evolution*, 33(3), 198-212. doi: 10.1016/j.tree.2017.12.008

### In prep:

**Grabenstein, K.C.**, Otter, K., Burg, T., & Taylor, S.A. Sympatry leads to lower body condition for two closely related taxa.

**Grabenstein, K.C.**<sup>†</sup>, Kaiser, S.A.<sup>†</sup>, Sillett, T.S., and Webster, M.S. No experimental support for resource-dependent offspring sex allocation in a migratory songbird.

## NON-REFEREED PUBLICATIONS

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**Grabenstein, K.C.** "The Boulder Chickadee Study: Establishing a long-term research framework" Colorado Birds, Colorado Field Ornithologists Quarterly Publication, 2019.

**Grabenstein, K.C.** "Seven Ways of Looking at a Fairywren: Student Research in Australia." All About Birds, 13 Aug. 2014. <https://www.allaboutbirds.org/seven-ways-of-looking-at-a-fairywren-student-research-in-australia/>.

**Grabenstein, K.C.** "Research News: Can Clark's Nutcrackers help keep white bark pine forests alive?" Project FeederWatch, 5 Mar. 2012. <http://feederwatch.org/blog/research-news-can-clarks-nutcrackers-help-keep-whitebark-pine-forests-alive/>.

## FELLOWSHIPS AND GRANTS

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**TOTAL FELLOWSHIPS: \$138,000** **TOTAL GRANTS: \$87,001**

**\$138,000, Graduate Research Program Fellowship (GRFP)**, National Science Foundation, 2017

### 2019

**\$1,000 Microgrant Outreach Award**, Office for Outreach and Engagement, University of Colorado, Boulder

**\$3,000 Undergraduate Research Opportunities Program Team Grant**, University of Colorado

**\$4,500 Francis M. Peacock Scholarship**, Garden Club of America

Updated: 23 October 2019

**\$1,075, Project Grant**, Colorado Field Ornithologist Society  
**\$1,000 Education & Conservation Grant**, Denver Field Ornithologists

## 2018

**\$3,000 Undergraduate Research Opportunities Program Team Grant**, University of Colorado (declined)  
**\$49,576, CU RIO Seed Grant**, Pls: Dr. Scott Taylor, Dr. Mariana Kassianidou, & Dr. Alexandra Rose, **Co-written by Kathryn Grabenstein**, Research & Innovation Office, University of Colorado, Boulder  
**\$2,300 Hesse Award**, American Ornithological Society  
**\$2,300 Student Research Grant**, Department Ecology & Evolutionary Biology  
**\$2,000 Frank Chapman Memorial Award**, American Museum of Natural History  
**\$1,000 Beverly Sears Research Grant**, Graduate School, University of Colorado, Boulder  
**\$1,000 Museum Grant**, University of Colorado Museum of Natural History

## 2017

**\$2,500 Rosemary Grant Award**, Society for the Study of Evolution  
**\$2,100 Research Grant Award**, Boulder County Naturalist Association  
**\$2,000 Student Research Grant**, Department Ecology & Evolutionary Biology  
**\$1,300 Graduate Student Research Grant**, Society of Systematic Biologists  
**\$750, Project Grant**, Colorado Field Ornithologist Society

## HONORS AND AWARDS

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**Graduate Student Teacher Award**, Ecology & Evolutionary Biology Department, University of Colorado-Boulder, 2018  
**Best Graduate 12-minute Talk**, Spring Student Research Symposium, University of Colorado-Boulder, 2018  
**Runner-up in Genesis Award for Outstanding Undergraduate Poster Presentation**, Animal Behavior Society, 2014  
**Cynthia Kagarise Sherman Award for Best Undergraduate Thesis in Behavior**, Department of Neurobiology & Behavior, Cornell University, Spring 2014  
**Dean's List**, College of Arts and Sciences, Cornell University, Fall 2013, Spring 2014  
**Honorable Mention in Knight Prize for Writing in the Majors**, Cornell University, 2014

## INVITED PRESENTATIONS

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**Grabenstein, K.** & Taylor, S.A. Combining research, teaching, and community science in CU Boulder's Urban Forest. Tree City USA quarterly meeting, CU Boulder, Boulder, CO, July 2019, **Invited Talk**.

**Grabenstein, K.** & Taylor, S. Little Birds, Big Data. Talks at Google, Google, Boulder, CO, February 2019, **Invited Talk**.

**Grabenstein, K.**, Burg, T., Otter, K. and Taylor, S. Experimental utility of hybridization following human landscape disturbances. American Ornithological Society, Tucson, AZ, April 2018, **Invited Talk**.

## PRESENTATIONS \*denotes undergraduate/high school student mentee

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\*Arnold, V., **Grabenstein, K.**, Theodosopolous, A. & Taylor, S.A. Chickadees prefer south-facing nest boxes. Summer Researcher Poster Session, UCAR Boulder, CO. August 2019.

**Grabenstein, K.C.** & Taylor, S.A. Understanding species boundaries in Colorado backyard birds. Front Range Student Ecology Symposium, Fort Collins, CO, February 2019. **Talk**.

\*Feldmann, K., **Grabenstein, K.**, Funk, E., & Taylor, S. Plumage patterns in chickadees: quantifying plumage variation between and within *Poecile atricapillus* and *Poecile gambeli*. Front Range Student Ecology Symposium, Colorado State University, Fort Collins, CO, February 2019, Poster.

Brackett, A., Frankel-Goldwater, L., **Grabenstein, K.**, Nocito, E., Roberts, V. Bolstering the front lines: Empowering educators to make excellence inclusive. The University of Colorado Diversity Summit, Boulder, CO, November 2018. **Workshop.**

\*Rose, K., \*Pineda, A., **Grabenstein, K.**, Hansen, A., & Taylor, S. Chickadees hybridizing in Boulder County, CU Science Discovery & Nature Kids Lafayette Research Experience Symposium, August 2018, Poster.

\*Pineda, A., \*Rose, K., **Grabenstein, K.**, Hansen, A., & Taylor, S. Chickadees in Boulder County, CU Science Discovery & Nature Kids Lafayette Research Experience Symposium, August 2018, Poster.

**Grabenstein, K.**, Burg, T., Otter, K. and Taylor, S. Experimental utility of hybridization following human landscape disturbances. Spring Student Research Symposium, Boulder, CO April 2018, **Talk.**

**Grabenstein, K.C.** and Taylor, S.A. Breaking barriers: anthropogenic hybridization in disturbed habitats. Guild of Rocky Mountain Ecology and Evolutionary Biologists Society, Nederland CO, 2017, **Talk.**

**Grabenstein, K.C.**, Kaiser, S.A., and Webster, M.S. No experimental support for resource-dependent sex allocation in a migratory songbird, The 51st Annual Conference of the Animal Behavior Society, Princeton, NJ August 2014, Poster.

O'Toole, K. E., **Grabenstein, K. C.**, Hinton, M. G., Swaddle, J. P., Karubian, J., Webster, M. S. Post-fire vegetation structure and food availability may impact habitat preference for a tropical passerine. Annual Meeting of the Wilson's Ornithological Society, The College of William & Mary, March 2013, Poster.

## TEACHING EXPERIENCE

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**Ornithology**, Graduate Teaching Assistant, CU Boulder **Jan 2018-May 2018**  
Designed laboratory component of new Ornithology course: Using inclusive pedagogy techniques, created weekly labs and wrote laboratory manual. Collected pre- and post-survey data to improve course in future iterations.

**Animal Behavior**, Graduate Teaching Assistant, CU Boulder **Aug 2017-Dec 2017**

**General Biology I and II**, Graduate Teaching Assistant, CU Boulder **Aug 2016-May 2017**

### Invited Guest Lectures:

Life History & Timing of Breeding, Ornithology, 2018

## QUANTITATIVE SKILLS

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**Coding Language & Program Proficiency:** R, SQL, Unix environment, Python, Git & ArcGIS

**Computational Proficiency:** Big Data curation & manipulation, multivariate statistical analyses, data visualization, & bioinformatics

**Relevant Graduate Coursework:** Computational Biology, Biometry, Genomics, & Practical Computing for Biologists

## PROFESSIONAL EXPERIENCE

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**Intern**, Climate Change Science Institute, Oak Ridge National Laboratory **Aug 2014 - May 2015**  
Combined large vegetation phenology datasets from satellites and 605 on-the-ground observational sources using R & SQL to 1) resolve space and time limitation trade-offs and 2) refine resolution of remote sensing sources, resulting in a 200% improvement (from 2km to 500m pixels) in imaging tools for future research.

**Field Biologist**, Southern Sierra Research Station **Jun 2014 - Aug 2014**  
Monitored breeding population of Yellow-billed Cuckoos using radio telemetry, nest searching/monitoring, behavioral observations, point count surveys, canopy mist netting, and data analysis with ArcGIS.

**Undergraduate Research Assistant**, Fuller Evolutionary Lab **Jan 2011 - May 2014**  
Conducted 1000+ genetic analyses to sex individuals and assign paternity using DNA extraction & PCR. This work generated nestling paternity data for graduate students assessing breeding success in their study populations. doi: [10.1098/rsbl.2016.0682](https://doi.org/10.1098/rsbl.2016.0682), doi: [10.1098/rspb.2013.2175](https://doi.org/10.1098/rspb.2013.2175) & doi: [10.1098/rspb.2014.2523](https://doi.org/10.1098/rspb.2014.2523)

**Student Liaison/Fellow**, NSF International Research Experience for Students (IRES) **Jan 2012 - Dec 2013**  
Developed independent project during 8-week field component in Northern Territory, Australia using active mist netting, color band re-sighting, banding, jugular/brachial bleeding, hormone assays, point counts, survey transects, vegetation surveys, song analysis in Raven software, data entry, and data management. *Invited to return as Student Liaison in second year to assist with logistics of running IRES program (i.e. trip planning, data management).*

**Undergraduate Field Researcher**, Webster Lab **Dec 2010 - Jan 2011**  
Performed behavioral observations on color banded population of Red-backed Fairy wrens in Brisbane, Australia to explore potential behavioral differences between sexually manipulated and control males

## OUTREACH

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**Boulder Chickadee Study End-of-Season Symposium**, Boulder, CO, October 2019  
Garnered funding, planned, advertised, and executed 3 hour symposium to connect current & future Boulder Chickadee Study participants with senior, graduate, and undergraduate researchers and to discuss research findings.

**NSF GRFP Panel Participant**, Graduate School, CU Boulder, September 2019  
Served as invited panelist during Q&A session led by Graduate School for GRFP preparation

**Genomics Exhibit, CU Natural History Museum**, Boulder, CO, September 2019  
Contributed materials to CU Boulder's Natural History Museum Exhibit

**Nature Camp Research Instructor**, Wild Bear Mountain Ecology Center, Nederland, CO, July 2019  
Developed research activities, led bird banding demonstration, and implemented full-day camp for 11 students, age ranges 8-15 yr old.

**Nest Box Building Workshop**, Dharma's Garden, May 2019  
Led day long nest box building workshop for community garden

**Citizen Science Day**, CU Science Discovery & Boulder Public Library, April 2019  
Invited to prepare exhibit on Community Science Projects for the Boulder public

**Nest Box Building Workshop**, Dharma's Garden, March 2019  
Led day long nest box building workshop for community garden

**Nature Walk Biologist**, Americas for Conservation and the Arts, Evergreen, CO, September 2018  
Participated as bird biologist on nature walk focused on connecting ~20 Latino families with local Colorado biodiversity

**Science Camp Research Instructor**, CU Science Discovery Mountain Research Experience, Boulder, CO, July 2018  
Led bird banding demonstration, guided bird walk, and delivered educational presentation for 4 high school students funded through Nature Kids/Jóvenes de la Naturaleza Lafayette that serves a predominantly latinx population.

**Nature Camp Research Instructor**, Wild Bear Mountain Ecology Center, Nederland, CO, July 2018  
Developed research activities, led bird banding demonstration, and implemented full-day camp for 11 students, age ranges 8-15 yr old.

**Invited Keynote Speaker**, Inaugural CU Boulder Nerd Night, Boulder, CO, February 2018  
Delivered keynote address for first ever Boulder Nerd Night to 50+ audience members

**Graduate Student Panel Member**, Undergraduate Research Expo, University of Colorado-Boulder, SASC (Student Academic Success Center), March 2018 for 100+ undergraduates from underserved groups

**Graduate Mentor for Teacher Professional Development Workshop**, Biological Sciences Initiative, CU Boulder, July 2018  
Developed film, workshop, and associated curriculum featuring dissertation research for 20 middle school & high school teachers in Boulder County. Anticipated reach is 960 Boulder County K-12 students, July 2018

**Middle School Classroom Presentations**, Migration in North America, Ithaca, New York and Oak Ridge, Tennessee, 2014

**Educational YouTube Bird Migration Video**, Wrote and narrated informational video, **viewed 140,000+ times on YouTube**, Ithaca, NY 2014

**MENTORING** \*Denotes Honors Thesis student

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**\*Katherine Feldmann**, CU Boulder Undergraduate  
Developed independent undergraduate research project exploring plumage differences in chickadees using UV-sensitive camera, spectrophotometer, & computer image analysis, 2017- present  
Awarded CU Boulder BSI & UROP funding, 2019  
Awarded NSF REU, EBIO Grant, and CU Boulder UROP funding, 2018

**Cori Carver**, CU Boulder Undergraduate  
Developed independent undergraduate research project exploring chickadee diet composition, Summer 2019-present  
Deployed nest boxes & assisted chickadee banding, Spring 2019

**Vanessa Arnold**, Front Range Community College (FRCC) Student  
Awarded NSF REU for supporting Community College Students in Research  
Explored abiotic factors that predict nest box occupancy in wild chickadees, Summer 2019

**Shay Ding**, CU Boulder Undergraduate  
Examined nest composition of chickadee nests along both an elevational & urban-to-rural gradient, Summer 2019

**Rachael Merkt**, CU Boulder Undergraduate  
Deployed nest boxes, Spring 2019

**Torrey Davis**, CU Boulder Undergraduate, Fall 2018  
Designed, constructed, and deployed nest boxes

**Heather Rose & Alex Pineda**, Centaurus High School Students, CU Science Discovery & Nature Kids/ Jóvenes de la Naturaleza Lafayette, July 2018  
Both students prepared and presented individual posters on summer research on chickadee density & social groups in Boulder County

## **SERVICE**

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**Graduate Student Space Committee**, 2017-2018  
Created new graduate work space, managed graduate student departmental library, organized space reservation & maintenance logistics

**Graduate Orientation Improvement Committee**, 2017  
**Diversity & Inclusion Seminar Member**, 2016-2019

Member of grassroots Diversity & Inclusion group that seeks to modify departmental culture and operations to become more inclusive and diverse. Developed amendment to remove GRE as departmental requirement for acceptance into graduate programs, which was implemented Fall 2018.

Researched & developed Best Hiring Practices document for EBIO faculty hiring, Spring 2019

**Inclusive Pedagogy Course, Fall 2018**

*Co-authored* with two other graduate students a specific, long-term departmental 40+ page Inclusive Excellence Action Plan with actionable items to increase diversity and inclusion within the EBIO Department at the undergraduate, graduate, & faculty/staff level.

**CU Boulder Natural History Museum Collection Contributor, 2016 - present**

Worked closely with museum curators to utilize collections for research projects and also donated numerous specimens (adults, nests, eggs, & chicks) to museum collection to support collection-based science.