

Ava Hoffman

DATA SCIENTIST • ECOLOGIST

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EDUCATION

2019 **Ph.D. Ecology** Colorado State University • Fort Collins, CO
 2012 **B.S. Biology** University of Virginia • Charlottesville, VA

PROFESSIONAL EXPERIENCE

2019+ **Boston Consulting Group** • Data Scientist • Boston, MA
 2018-2019 **Insight Data Science** • Insight Data Science Fellow • Remote Program
 2017-2018 **US Department of Agriculture** • NIFA-AFRI Predoctoral Fellow • Colorado State University • Fort Collins, CO
 2012-2013 **DuPont Pioneer** • Laboratory Assistant • Biotechnology Division • Wilmington, DE
 2011-2012 **University of Virginia** • Undergraduate Researcher • Department of Biology • Charlottesville, VA
 2011 **Coweeta Hydrologic Laboratory LTER and United States Forest Service** • Research Intern • Otto, NC
 2010 **Virginia Commonwealth University** • Research Assistant • Richmond, VA

FELLOWSHIPS | GRANTS | AWARDS

Total received: \$118,112

2018 **Colorado State University** • Research Mentoring to Advance Inclusivity in STEM Research Grant (\$2500)
 2017-2018 **Colorado State University** • School of Global Environmental Sustainability Leadership Fellowship
 2016-2018 **United States Department of Agriculture** • NIFA-AFRI Predoctoral Fellowship (\$94,999)
 2016 **City of Boulder Open Space and Mountain Parks** • Research Grant (\$5669)
 2016-2017 **Colorado State University** • Vice President of Research Graduate Fellow (\$3125)
 2016 **The Nature Conservancy** • J.E. Weaver Competitive Grant (\$1000)
 2016 **The Ecological Society of America** • 'Hackathon' beginner app developer first place award
 2016 **Colorado State University** • Graduate Degree Program in Ecology Small Research Grant (\$2000)
 2016 **Colorado State University** • Graduate Degree Program in Ecology Travel Grant (\$175)
 2015-2016 **Colorado State University** • Graduate Degree Program in Ecology Teaching Fellowship
 2015 **Colorado State University** • Harold Harrington Fellowship (\$1900)
 2014-2015 **Colorado State University** • Stavros Family Fund Recipient (\$3021)
 2014-2015 **Colorado State University** • Department of Biology Travel Awards (\$2258)
 2014 **National Science Foundation** • Graduate Research Fellowship Program (Honorable Mention)
 2014 **Colorado State University** • Sharon E. and David E. Kabes Scholarship (\$590)
 2013 **Colorado State University** • Graduate Fellowship Award (\$1000)
 2012 **University of Virginia** • Undergraduate Research Travel Grant (\$1000)

PUBLICATIONS

2019 Griffin-Nolan, RJ, D Blumenthal, S Collins, T Farkas, **AM Hoffman**, K Mueller, TW Ocheltree, MD Smith, AK Knapp. Shifts in plant functional composition following long-term drought in grasslands. *Journal of Ecology*.
 2019 **Hoffman, AM**, H Perretta*, NP Lemoine, and MD Smith. Blue grama grass genotype affects palatability and preference by semi-arid steppe grasshoppers. *Acta Oecologia*.
 2018 **Hoffman, AM** and MD Smith. Thinking inside the box: Tissue culture for plant propagation in a key ecological species, *Andropogon gerardii*. *American Journal of Plant Sciences*.

PUBLICATIONS (CONTINUED)

- 2018 Knapp, AK, C Carroll, RJ Griffin-Nolan, IJ Slette, F Chaves, L Baur, AJ Felton, JE Gray, **AM Hoffman**, NP Lemoine, W Mao, A Post, MD Smith. A reality check for climate change experiments: do they reflect the real world? *Ecology*.
- 2018 Griffin-Nolan, RJ, JA Bushey, CJW Carroll, A Challis, J Chieppa, M Garbowski, **AM Hoffman**, AK Post, IJ Slette, D Spitzer, D Zambonini, TW Ocheltree, DT Tissue, AK Knapp. Trait selection and community weighting are key to understanding ecosystem responses to changing precipitation regimes. *Functional Ecology*.
- 2018 **Hoffman, AM**, ML Avolio, AK Knapp, MD Smith. Co-dominant grasses differ in gene expression under experimental climate extremes in native tallgrass prairie. *PeerJ*.
- 2017 **Hoffman, AM** and MD Smith. Gene expression differs in codominant prairie grasses under drought. *Molecular Ecology Resources*.
- 2017 Avolio, ML, **AM Hoffman**, MD Smith. Linking gene regulation, physiology, and plant biomass allocation in *Andropogon gerardii* in response to drought. *Plant Ecology*.
- 2016 Lemoine, NP, **AM Hoffman**, A Felton, L Baur, F Chaves, J Gray, Q Yu, MD Smith. Underappreciated problems of low statistical power in ecological field studies. *Ecology*.
- 2016 Smith, MD, **AM Hoffman**, ML Avolio. Gene expression patterns of two dominant tallgrass prairie species differ in response to warming and altered precipitation. *Scientific Reports*.
- 2012 Mellor, KE, **AM Hoffman**, MP Timko. Use of ex vitro composite plants to study the interaction of cowpea (*Vigna unguiculata* L.) with the root parasitic angiosperm *Striga gesnerioides*. *Plant Methods*.
- 2012 **Hoffman, AM** Estimating tree transpiration accurately depends on wood type and species: a study of four southern Appalachian tree species. *The Oculus*.
- 2011 Zinnert, JC, JD Nelson, **AM Hoffman**. Effects of salinity on physiological responses and the photochemical reflectance index in two co-occurring coastal shrubs. *Plant & Soil*.
- 2010 Zinnert, JC, JD Nelson, JK Vick, **AM Hoffman**, DR Young. Rethinking chlorophyll responses to stress: Fluorescence and reflectance remote sensing in a coastal environment. *Proceedings of the 4th International Workshop on Remote Sensing of Vegetation Fluorescence*, Valencia, Spain.
- In review Bushey, JA, **AM Hoffman**, TW Ocheltree, S Gleason, MD Smith. Water limitation reveals local adaptation and plasticity in the drought tolerance strategies of *Bouteloua gracilis*. *Environmental and Experimental Botany*. Manuscript available upon request.
- In review KR Wilcox, SE Koerner, DL Hoover, AK Borkenhagen, DE Burkepile, SL Collins, **AM Hoffman**, KP Kirkman, AK Knapp, T Strydom, DI Thompson, and MD Smith. Rapid recovery of ecosystem function following extreme drought in a South African savanna-grassland. *Ecology*. Manuscript available upon request.
- In review **Hoffman, AM**, JA Bushey, TW Ocheltree, MD Smith. Genetic and functional variation across regional and local scales is associated with climate in a foundational prairie grass. *Molecular Ecology*. Manuscript available upon request.
- In review **Hoffman, AM** and MD Smith. Nonlinear plasticity improves understanding of intraspecific diversity in an ecological model species. *New Phytologist*. Manuscript available upon request.

*Denotes undergraduate mentee

TEACHING

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|-----------|---|---------------------------|
| 2016 | Data visualization using R and ggplot (guest lecture) | Colorado State University |
| 2014-2016 | Molecular and General Genetics (Recitation) | Colorado State University |
| 2016 | Community Ecology (Recitation) | Colorado State University |
| 2015 | Foundations of Ecology (Recitation, guest lectures) | Colorado State University |
| 2012 | Organic Chemistry Lab II | University of Virginia |
| 2011 | Organic Chemistry Lab I | University of Virginia |

STUDENT MENTORING

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| 2018 | Maddie Swall · RMAIS mentee | Colorado State University |
| 2016-2017 | Holly Perretta · REU student | Colorado State University |
| 2017 | Abigail Lock · Research Assistant | Colorado State University |
| 2016 | Brigitte Gaudreault · Laboratory Research Assistant | Colorado State University |
| 2015 | Daniel Robotham · Honors Thesis student Thesis committee member | Colorado State University |
| 2014-2015 | Brianna Magbual · Research Assistant | Colorado State University |
| 2014 | Destiny Brown · Research Assistant | Colorado State University |

PRESENTATIONS

- 2018 **Ecological Society of America** · *New Orleans, LA*
Plastic prairie: Genetic diversity and local adaptation within blue grama grass.
- 2018 **Front Range Student Ecology Symposium** · *Fort Collins, CO*
Dominant grasses in drylands: linking species and traits to global change in ecosystems.
- 2017 **Colorado State University Drought Symposium** · *Fort Collins, CO*
Phenotypic diversity within dominant blue grama grass across an aridity gradient. [Third place winner](#)
- 2017 **Front Range Open Space Research Symposium** · *Boulder, CO*
Phenotypic diversity within dominant blue grama grass across an aridity gradient. [Invited speaker](#)
- 2017 **Ecological Society of America** · *Portland, OR*
Phenotypic diversity within dominant blue grama grass across an aridity gradient.
- 2017 **Front Range Student Ecology Symposium** · *Fort Collins, CO*
Phenotypic diversity within dominant blue grama grass across a precipitation gradient.
- 2016 **Ecological Society of America** · *Fort Lauderdale, FL*
Thresholds of drought response differ in a tallgrass prairie population.
- 2016 **Vice President Office of Research Fellowship Symposium** · *Fort Collins, CO*
Breaking down the drought portfolio in grasslands. [3-Minute Thesis Invited Speaker](#)
- 2015 **Graduate Student Forum** · *Fort Collins, CO*
 \LaTeX : Introduction and tricks of the trade. [Invited speaker](#)
- 2015 **Ecological Society of America** · *Baltimore, MD*
Genotypes of a tallgrass prairie species respond differently to drought, despite high plasticity within populations. [Invited Speaker](#)
- 2015 **Front Range Student Ecology Symposium** · *Fort Collins, CO*
Genotypes of a tallgrass prairie species respond differently to drought, despite high plasticity in populations.
- 2015 **Graduate Student Forum** · *Fort Collins, CO*
Predicting diversity: Old hypotheses, new critiques, and why you should be paying attention. [Invited speaker](#)
- 2014 **Colorado State University Plant Supergroup** · *Fort Collins, CO*
Within-population variation under drought in a tallgrass prairie species. [Invited speaker](#)
- 2014 **Ecological Society of America** · *Sacramento, CA*
Gene expression in co-dominant prairie grasses: comparing transcriptomes using RNA-seq and de novo assembly.
- 2012 **Ecological Society of America** · *Portland, OR*
Composite plants: A novel method for gene screening in cowpea.

PROFESSIONAL SERVICE

- Peer review: *Global Change Biology* · *Journal of Ecology* · *New Phytologist* · *Plant Ecology* · *Plos One*
- 2011 - 2018 Ecological Society of America · Student member
- 2016 - 2017 Front Range Student Ecology Symposium · Undergraduate research poster judge
- 2015 - 2016 Graduate Degree Program in Ecology · Executive Committee Student Representative
- 2015 - 2016 Front Range Student Ecology Symposium · Abstract Selection and Review Committee member
- 2015 Colorado State University Department of Biology · Faculty search committee student organizer
- 2014 - 2015 Front Range Student Ecology Symposium · Executive Board Member
- 2013 - 2014 Front Range Student Ecology Symposium · Webmaster
- 2011 - 2014 Ecological Society of America · Student Volunteer

COMMUNITY ENGAGEMENT

- 2016 Colorado Odyssey of the Mind · Science fair judge · Fort Collins, CO
- 2014-2015 Bella Romero Elementary School · science fair judge and guest educator · Greeley, CO