

# Ava Hoffman

## ECOLOGIST

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## EDUCATION

2018	Ph.D., Ecology (in progress)	Colorado State University, Fort Collins, CO
2012	B.S., Biology with Distinction	University of Virginia, Charlottesville, 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

In prep.	Hoffman, AM, NP Lemoine, TW Ocheltree, MD Smith. Metabolomes of prairie species <i>Bouteloua gracilis</i> and <i>Spheralcea coccinea</i> are resilient to nitrogen deposition. <i>Manuscript available upon request.</i>
In prep.	Hoffman, AM and MD Smith. Genotypes of a tallgrass prairie species respond differently to drought, despite high plasticity in populations. <i>Manuscript available upon request.</i>
In prep.	Smith, MD, SE Koerner, AK Knapp, ML Avolio, JM Briggs, FA Chaves, E Denton, J Dietrich, DJ Gibson, J Gray, AM Hoffman, DL Hoover, KJ La Pierre, A Silletti, KR Wilcox, Q Yu, and JM Blair. Mass ratio effects underlie ecosystem responses to environmental change. <i>Manuscript available upon request.</i>
In prep.	Bushey, JA, AM Hoffman, TW Ocheltree, S Gleason, and MD Smith. Is it plastic or just fantastic? Understanding the role of plasticity and local adaptation in the drought tolerance of <i>Bouteloua gracilis</i> . <i>Manuscript available upon request.</i>
In review	Hoffman, AM, CC Hoffman, F Chaves, A Felton, JE Gray, W Mao, A Tatarko, L Vilonen, L Gerhardt, MD Smith. Predicting dryland ecosystem responses to global change through dominant grasses. <i>Functional Ecology</i> . <i>Manuscript available upon request.</i>
In review	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, and MD Smith. A reality check for climate change experiments: do they reflect the real world? <i>Ecology</i> . <i>Manuscript available upon request.</i>

## PUBLICATIONS (CONTINUED)

- In review **Hoffman, AM**, H Perretta\*, and MD Smith. Patterns of grasshopper palatability and preference in blue grama grass. *Arthropod-Plant Interactions*. Manuscript available upon request.  
\*Denotes undergraduate mentee
- In press 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, and AK Knapp. Linking plant traits and ecosystem responses to precipitation: a way forward. *Functional Ecology*. Manuscript available upon request.
- 2018 **Hoffman, AM**, ML Avolio, AK Knapp, and 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, and MD Smith. Underappreciated problems of low statistical power in ecological field studies. *Ecology*.
- 2016 Smith, MD, **AM Hoffman**, and 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**, and 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** and 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.

## PROFESSIONAL EXPERIENCE

- 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

## TEACHING

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

## STUDENT MENTORING

- |           |  |                           |
|-----------|--|---------------------------|
| 2018      | <b>Maddie Swall</b> , RMAIS mentee   | Colorado State University |
| 2016-2017 | <b>Holly Perretta</b> , REU student  | Colorado State University |
| 2017      | <b>Abigail Lock</b> , Research Assistant   | Colorado State University |
| 2016      | <b>Brigitte Gaudreault</b> , Laboratory Research Assistant                             | Colorado State University |
| 2015      | <b>Daniel Robotham</b> , Honors Thesis student <a href="#">Thesis committee member</a> | Colorado State University |
| 2014-2015 | <b>Brianna Magbual</b> , Research Assistant  | Colorado State University |
| 2014      | <b>Destiny Brown</b> , Research Assistant  | Colorado State University |

## PRESENTATIONS

- 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**  
Hoffman, AM. 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*