

JENNA E GALLEGOS

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EDUCATION

PhD in Plant Biology with a Designated Emphasis in Biotechnology

University of California, Davis

Expected Graduation Jun 2017

- Thesis Title: "A place for introns in the world of promoters: unraveling the mystery of intron-mediated enhancement of gene expression in *Arabidopsis thaliana*"
- Thesis Advisor: Dr. Alan Rose

BA in Molecular, Cellular, Developmental Biology (MCDB)

University of Colorado at Boulder

Aug 2008 – Dec 2011

- Minor: Ecology and Evolutionary Biology
- Honors Thesis Advisor: Dr. Thomas Blumenthal, department chair
- Honors Thesis Title: "Role of the Ou element in SL1 trans-splicing in *C. elegans* nematodes."
- Graduated Magna Cum Laude

RELEVANT SKILLS

Molecular Biology, Microbiology, and Biochemistry

- Cloning: traditionally cloned over 100 constructs including 7kb fragments into 16kb vectors
- Sequence engineering: Designed mutants and synthetic sequences while accounting for codon frame, premature stop codons, codon usage bias, and minimizing changes to protein structure.
- Assays: Experience with RNA and protein isolation, in vitro transcription/splicing, pull-downs, Northern, Southern, Western, and GUS, MUG, and Luciferase reporter systems.

Computational/Bioinformatics

- Databases: Familiar with WormBase, TAIR, and the UCSC genome browser
- Coding: Experience and coursework with Unix, Perl, and R studio

Business, Management, and Communications

- As a tech in Tom Blumenthal's lab, I hired, trained and supervised my own replacement
- I have also trained and supervised five undergraduates and one rotation student
- Familiar with intellectual property, patent law, and both startup and corporate culture
- Experience with University administration as a representative for the graduate student association, recruitment program manager, and fundraising chair of my graduate group for two years
- Developed content and managed multiple professional websites and social media accounts
- Awarded nearly \$150,000 in competitive research grants/scholarships/fellowships plus over \$75,000 in tuition remission from multiple different public and private entities

PUBLICATIONS

- In preparation: **J. E. Gallegos** & A. B. Rose. Intron-driven gene expression in the absence of a core promoter. Available preprint: <http://biorxiv.org/content/early/2016/10/26/083261>
- J. E. Gallegos** & A. B. Rose. The enduring mystery of intron-mediated enhancement. *Plant Science* 237 (2015) 8-15.
- Gallegos, Jenna**, "The role of the Ou element in SL1 trans-splicing in *C. elegans* nematodes" (2011). Undergraduate Honors Theses. Paper 596

RESEARCH/WORK EXPERIENCE

- Graduate Student Researcher** University Of California In Davis Apr 2013-Present
Lab of Dr. Alan Rose, MCB department
- Determining parameters for optimizing intron-mediated enhancement of gene expression in *A. thaliana* by manipulating introns in GUS reporter constructs and comparing mRNA levels and enzymatic activity in single copy homozygous lines
 - Collaborate with computational researchers in Dr. Ian Korf's lab (UC Davis) to design experiments based on genome-wide analyses and to modify computational tools based on experimental data
 - Train and supervise undergraduates, rotation students, and a masters student
 - Design and carry out lesson plans, analogies, and multimedia hands-on activities to introduce my research to other scientists, K-12 students, media outlets, and the general public
- Ag Productivity Innovations Intern** Monsanto Jun 2017-Oct 2017
Research & Development Internship in Woodland, CA
- Worked with a team of scientists to identify candidate genes for which silencing by RNA interference would lead to cell death in an agronomically important weed species
 - Knocked down gene candidates in model and weed species and characterized phenotypes
 - Gave two formal and two informal presentations
- Junior Research Specialist** University of Colorado in Boulder Jan 2012-Aug 2012
Lab of Dr. Thomas Blumenthal, MCDB department
- Supervisor: Dr. Erika Lasda, postdoctoral researcher
 - Performed various RNA oligo pull-downs and analyzed the results on Northern and Western blots
 - Trained and supervised two work-study students
- Undergraduate Researcher & Lab Technician** University of Colorado in Boulder Jan 2010-Dec 2011
Lab of Dr. Thomas Blumenthal, MCDB department
- Investigated the role of a sequence called the "Ou element" in trans-splicing in *C. elegans* by mutational analysis followed by *in vitro* transcription and splicing assays
 - Presented results at semi-weekly lab meetings and at local and national conferences
 - Published results in an undergraduate honors thesis
 - General lab maintenance -made solutions, sterilized equipment, stocked supplies
 - Communicated with lab members, collaborators, and managers of outsourced tasks to ensure a productive and economically optimized work flow

TEACHING EXPERIENCE

Coursework in Teaching Principles:

- 9 credit hours from the School of Education at the University of Colorado in Boulder 2008-2009

Experience:

- TA for BIS 101 Genes & Gene Expression at UC Davis Winter 2017
- TA for Freshman Seminar on genetically modified foods at UC Davis Fall 2015-Spring 2016
- Guest lecture on genetically modified foods at San Marin High School Spring 2016
- Guest lecture on genetically modified foods at Sonoma Community College Spring 2016
- Volunteer lessons for homeschool students in the Davis Homespun Learning Group Fall 2014
- Volunteer Student Teacher at Pioneer High School in Woodland, CA Fall 2012
- Student Academic Services Center employed tutor for organic chemistry University of Colorado in Boulder Fall 2010
- Employed "Learning Assistant" for intro to molecular biology University of Colorado in Boulder Fall 2009, Fall 2010
- Volunteer Tutor at Boulder High School in various subjects Spring 2009

AWARDS/ HONORS/ GRANTS

- American Association for University Women Dissertation Year Fellowship (\$20,000) 2016-2017
- National Science Foundation-Graduate Research Fellowship (\$100,000 & tuition remission) 2013-2016
- Finalist for the UC Global Food Initiative 30 under 30 award 2016
- California Seed Association Ginny Patin Memorial Scholarship (\$2,500) 2016
- Sacramento Powerhouse Science Center-Science Communication Fellow 2015
- Inducted into the UC Davis Chapter of the agricultural honor society Gamma Sigma Delta 2015
- Monsanto Endowed Student Fund in Agricultural Biotechnology Award (\$3,000) 2014-2015
- Academic Excellence Scholarship from the NIH T32 Training Program at UC Davis (\$5,000) 2012
- University of Colorado Undergraduate Research Opportunities Program Grant (\$1,800) 2011
- University of Colorado Ronald E. McNair Scholar Spring and Summer Programs (\$8,800) 2010-2011
- Federal SMART Grant (\$6,000) 2010-2012
- Howard Hughes Medical Initiative Research Grant (\$2,400) 2010-2011
- MCDB Mentors Grant for undergraduate researchers in the MCDB department (\$500) 2010
- University of Colorado Frank and Gina Day Scholarship (\$1,500) 2009-2010
- Federal Academic Competitiveness Grant (\$2,050) 2008-2009

COMMUNITY SERVICE

- Volunteer Judge for the UC Davis Field Day AgriScience Fair 2016
- Volunteer Judge for the UC Davis Teen Biotech Challenge 2015, 2016
- E-mentor for local high school students at Vallejo and Sheldon High School 2013-2016
- Helped found the UC Davis Science Communication "Science Says" 2015
- Participated in Sacramento Discovery Museum's 2015 "Meet a Scientist" event 2015
- Participated in the 2015 Marguerite Montgomery Elementary School Science Fair Davis, CA 2015
- Plant science demonstrations at the Angels for Hearts "When I Grow Up" Event Sacramento, CA 2014
- Volunteer at Cesar Chavez Elementary School's 2013 Festival de Ciencias in Davis, CA 2013
- Frequently guide lab and campus tours for primarily underrepresented high school students

SCIENCE COMMUNICATION & OUTREACH

Social media:

“Science Says” <https://www.facebook.com/DavisScienceSays/> 2016-present

- Manager of the Facebook page for the UC Davis science communication group “Science Says”
- This page has over 180 followers and promotes content produced by Science Says

“Barbara On The Bill” <https://twitter.com/BarbaraTheNew10> Summer 2015

- Primary manager of the Twitter account for the campaign to promote Barbara McClintock for the new 10-dollar bill and spread encouraging messages for women in STEM careers
- The account has nearly 800 followers and has been mentioned in USA Today, The New York Times, and NPR

Blogging:

“Science REALLY Says” Blog <https://davissciencepolicy.wordpress.com/blog/> 2016-present

- Serve as editor and manage a team of writers seeking to ensure scientific data is accurately represented in the media by writing timely responses to viral news coverage of new studies

Video:

“Where Do Farmers Get Their Seeds?” https://www.youtube.com/watch?v=z1_lwy8KfHI June 2015

- Wrote a script and lead a team to produce a video explaining hybrid vigor to the general public.
- Over 5,600 views on YouTube
- This video has been featured on ISAAA.org, GMOanswers.com, biofortified.org, and fafdl.org

Flier:

“What does GMO-free really mean? Ask a Scientist!” <https://davissciencepolicy.wordpress.com/our-projects/chipolte-flier/> June 2015

- Distributed at the Institute for Food and Agricultural Literacy’s 1st Annual Symposium

PRESENTATIONS

“Introns versus promoters: What determines the site of transcript initiation?”

- Invited talk & Best Poster at the UC Berkeley Plant Genome Engineering Symposium May 2016
- Selected to represent the UC Davis College of Biological Sciences and nominated to give a special seminar at the 2015 NAIST Bio International Student Workshop in Nara, Japan Nov 2015
- Best poster at the UC Davis Plant Biology Retreat Oct 2015
- Poster presentation at the FASEB: Transcription, Chromatin, and Epigenetics Meeting in West Palm Beach, FL June 2015

“Role of the Ou element in SL1 trans-splicing in *C. elegans* nematodes.”

- Presented at three different Ronald E. McNair National Research Conferences:
 - University of Wisconsin Milwaukee Nov 2011
 - University of California in Berkeley Aug 2011
 - University of New Mexico in Albuquerque Oct 2010
- Poster presentation at the Society for Advancement of Chicanos and Native Americans in STEM National Conference in San Jose, CA Oct 2011
- UROP/HHMI Poster Session, University of Colorado in Boulder April 2011
- McNair Undergraduate Research Symposium, University of Colorado in Boulder Aug 2010

REFERENCES UPON REQUEST