

Andrew M. Katz

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Objective:

To obtain a career track position in agricultural biotechnology and crop improvement.

Education:

Colorado State University, Fort Collins, CO Graduate Student in Plant Breeding and Genetics	August 2017-Present 4.00/4.00
Purdue University, West Lafayette, IN Bachelor of Science in Plant Genetics and Breeding	August 2010-May 2014 3.51/4.00

Related Experience:

Colorado State University Department of Soil and Crop Sciences, Fort Collins, CO
Graduate Student August 2017-Present

- Genome editing with CRISPR/Cas9 systems in elite winter wheat cultivars
- Protocol development for improved tissue culture efficiency in monocots
- Positional cloning of yield component genes in hexaploid wheat
- Using advanced molecular biology techniques to improve the understanding of wheat physiology
- Protocol development for biocontainment of wheat and related species

Joint Genome Institute, Walnut Creek, CA

Genetic Research Assistant January 2015-May 2017

- Genome editing with *in vivo* CRISPR/Cas9 system focused on single and multiplexed gene knockouts for functional analysis of genes and gene families.
- Agrobacterium mediated transformation of model grasses *B. distachyon*, *B. stacei*, and *B. sylvaticum*
- High through-put mutant plant screening for discovery of gene function
- Performed metagenomic analysis on plant selected microbial communities using Qime
- Application of maker assisted selection, synthetic Biology, Chip-seq, RNAseq, oxford nanopore, PacBio, and Illumina technologies for plant research
- Have obtained a Level 2 eAuthentication (USDA) account which I have used to import and export *Brachypodium* and *Arabidopsis* seeds to various laboratories in foreign countries
- Screening, storing and maintaining 23,649 T-DNA lines, EMS/NaN3/ FNR mutant populations, RIL populations and natural accessions

Purdue University Department of Entomology, West Lafayette, IN
Genetic Research Assistant

August 2011-May 2014

- Investigated the Virulence and Avirulence evolution between Hessian Fly and Wheat
- Ran polymerase chain reactions, gel electrophoresis, southern and northern blotting
- Performed DNA extraction with Qiagen kits and lab-made protocols
- Communicated laboratory results with supervisors
- Operated genetic sequence software, such as Apollo, APE, JBrowse, Cluster Omega, Snappgene and various BLAST programs
- Performed florescent in situ hybridization, from Chromosome extraction to characterize inversions
- Familiar with bioinformatics, SNPs, Next-Generation Sequencing, Marker Assisted Selection and Kaspar Genotyping

Limagrain Cereal Seeds, Lafayette, IN
Wheat Breeding Research Intern

May 2012-August 2012

- Supervised, transported, and instructed 13, seasonal-high school employees
- Collected data for flowering date, pathogen resistance, height, yield, and protein content
- Managed weed pressure by identifying weeds and applying appropriate herbicide
- Managed seed processing to ensure seed purity, accuracy of identification and treatment
- Staked and took notes on roughly 60,000 preliminary yield test plots and 120,000 head rows

Leadership Experience:

California Alumni Association, Pinecrest, CA
Music Director

June 2014 (3 months)

- Directed 56 employees for the creation and execution of four separate performances weekly
- Lead as Master of Ceremonies for a wide range of activities, shows and events
- Facilitated audio and visual for a wide variety of platforms and software for visiting speakers and performers

Extracurricular Activities:

Farmelot, Vina, CA
Farm Intern

October and November 2014

- Experiential learning in social, environmental and economic sustainability
- Daily management of a diverse agronomic and horticultural cropping system
- Succession planting and crop management for market and client sales
- Construction of two 200'x30'x15' greenhouses by hand

Full Circle Agriculture at Purdue (FCAP), West Lafayette, IN
Farm Operations

August 2010-present

- Operate small scale farm equipment and attend annual farm safety seminars

- Exercise sustainable crop production methods
- Contributed to the founding of the organization
- Created the outreach coordinator position, in charge of maintaining relationships with similar programs with other Universities, students and faculty

Honors and Awards:

- Tak Tsuchiya Graduate Student Award 4 May 2018
- Programs of Research and Scholarly Excellence
Wheat Research, Outreach, and Education Program 31 October 2017
- Fellowship for attendance to the IV International Humulus
Symposium (Yakima, Washington, United States of America) 4 August 2015
- Scholarship to attend the Small Farm Conference Danville, IN. 22 February 2014
- 2012 Keim Family Scholarship 2012-2013 academic year
- Ken and Mary Cohee Scholarship 2011-2012 academic year
- Three Semesters on The Dean's List and Six Semester Honors 2010-2014

Publications and Presentations:

S. Kuzay, Y. Xu, J. Zhang, **A. Katz**, S. Pearce, Z. Su, M. Fraser, J. A. Anderson, G. Brown-Guedira, N. DeWitt, A. Peters Haurgrud, J. D. Faris, E. Akhunov, G. Bai, and J. Dubcovsky. 2019. Identification of a candidate gene for a QTL for spikelet number per spike on wheat chromosome arm 7AL by high-resolution genetic mapping. *Theoretical and Applied Genetics*. <https://doi.org/10.1007/s00122-019-03382-5>

A. Katz, K. Ravet, J. Shipp, P. Vail, J. Mentzer, A. Benitez, E. Bernholtz, S. Haley, S. Pearce. 2019. Accelerated Trait and Variety Development for Winter Wheat. CSU Ventures Demo Day. Fort Collins, CO, United States of America. (Poster)

A. Katz, P. Byrne, S. Haley, S. Pearce. 2019. Characterization, Validation, and Deployment of Chromosome 6BL QTL for Spikelet Number per Spike in Hard Winter Wheat. Plant and Animal Genomics XXVII Conference. San Diego, California, United States of America. (Poster)

A. Katz, K. Fortmann, S. Haley, J. Cook, J. Rauscher. 2019. Hypothesis to Reality: refining our skills to achieve results. *Corteva Plant Sciences Symposium*. San Diego, California, United States of America. (Moderator)

B. Brewer-Jones, M. Fraser, **A. Katz**, C.C. Kan, A. Peters, J. Turkus, P. Glenn, D. Larkin, Z. Winn, S. Kuzay, D. Crow, J. Cook. 2019. Bridging the Gap: using functional genomics to unlock yield potential. *Corteva Plant Sciences Symposium*. San Diego, California, United States of America. (Convener)

A. Katz, J. Cotter, K. Ravet, S. Haley, S. Pearce. 2018. Accelerated Trait and Variety Development for Winter Wheat. CSU Ventures Demo Day. Fort Collins, CO, United States of America. (Poster)

A. Katz, P. Byrne, S. Haley, S. Pearce. 2018. Characterization, Validation, and Deployment of Chromosome 6BL and 7AL QTLs for Grain Yield Components in Hard Winter Wheat. Plant and Animal Genomics XXVI Conference. San Diego, California, United States of America. (Poster)

A. Katz, E. Singer, B. Cole. 2016. 1st Annual Plant Microbe Interaction Symposium. Walnut Creek, California, United States of America. (Convener)

J. Knelman, **A. Katz**, et al. 2016. Developing a Defined Microbiome for *Brachypodium distachyon*. Department of Energy's Joint Genome Institute 11th Annual Users Meeting. Walnut Creek, California, United States of America. (Poster)

C. Zhao, R. Shukle, et al. 2016. Avirulence gene mapping in the Hessian fly (*Mayetiola destructor*) reveals a protein phosphatase 2C effector gene family. *Journal of Insect Physiology*. 84 (2016) 22-31. [...technical support from Sue Cambron (USDA-ARS) and **Andrew Katz**...] (Acknowledgement)

C. Zhao, L.N. Escalante, et al. 2015. A Massive Expansion of Effector Genes Underlies Gall-Formation in the Wheat Pest *Mayetiola destructor*. *Current Biology*. 25(5):613-20. [...Denise Caldwell and **Andrew Katz** (Purdue University) Figure 1...] (Acknowledgement)