

# Brittany Hazard

105 E Street Apt. 3H  
Davis, CA 95616

bahazard@ucdavis.edu

(530) 574 – 0956

## Education

Ph.D., Genetics, University of California Davis

Expected June 2015

Dissertation: Characterization of *Starch Branching Enzyme II* Mutants in Wheat

Advisor: Jorge Dubcovsky, Ph.D.

Bachelor of Science, Genetics, University of California Davis

December 2009

Relevant Coursework: Genetic Analysis, Molecular Genetics, Quantitative Genetics and Population Genetics, Genomics, Experimental Design and Analysis

## Research Experience

Doctoral Research, Dubcovsky Lab at UC Davis

2010 – present

- Development of wheat with increased levels of amylose and resistant starch, a novel nutritional and quality trait
- Perform experimental design, organization, implementation and statistical analysis for molecular breeding, starch phenotyping, yield trials, wheat quality testing and animal feeding studies
- Lab experience: DNA extraction, PCR, sequencing, MAS, TILLING screens, ELISA, analytical starch assays, grain quality testing, experimental milling and semolina quality testing, pasta extrusion and quality testing, animal feeding studies and necropsies, GC-MS analysis of short-chain fatty acids
- Field and greenhouse experience: 4 field seasons, seed preparation, planting, phenotyping, hand harvesting and combine harvesting
- Prepare manuscripts for scientific journals, germplasm registrations, research and grant proposals, technical presentations and reports for grant funders, scientific conferences and internal/external stakeholders
- Develop and register germplasm resources for wheat breeders
- Manage and mentor an undergraduate intern and lead small teams to complete project milestone tasks
- Identify, initiate and maintain interdisciplinary collaborations
- Participate in outreach and communication with growers, millers and end users to promote education of germplasm resources
- As Lab Safety Officer I prepared and managed safety training and documentation.

Technology Transfer Intern, InnovationAccess at UC Davis

2014

- Performed patentability and commercial assessments of UC Davis inventions
- Prepared marketing materials for UC Davis inventions
- Prepared technical memos for intellectual property officers

Laboratory Technician, Marker Discovery Group at Monsanto, Woodland, CA

2009 – 2010

- Performed high-throughput genotyping assays for trait developments groups

Student Intern, Marker Discovery Group at Monsanto, Woodland, CA

2008 – 2009

Student Intern, Tomato Trait Development Group at Monsanto, Woodland, CA

2008

Student Research Assistant, Postharvest Lab at UC Davis

2005 – 2008

## Teaching Experience

Teaching Assistant, Genes and Gene Expression, UC Davis

2012 and 2013

- Lectured discussion sections, prepared course curricula, held office hours, prepared and graded exams

Mentor for UC Davis Undergraduate Intern

2013 – 2015

Tutor, Genetics Lab, UC Davis

2009

## Awards

Plant Breeding Symposium, DuPont Pioneer	2013 – 2014
Graduate Student Research Assistantship, Plant Sciences Department, UC Davis	2012 – present
Colorado Wheat Research Foundation Fellowship, CWRP and ConAgra Mills	2011 – present
Henry A. Jastro Graduate Research Scholarship Awards	2011 – 2013
FuSE Future Seed Executives Campus Connections, Scottsdale, AZ	2009
Pack Family/PMA Career Pathways Scholarship, Houston, TX	2007
International Curriculum on Postharvest Technology Research Grant, University of Thessaly, Greece	2007

## Publications

**Hazard B.,** X. Zhang, M. Naemeh, and J. Dubcovsky. 2014. Registration of Durum Wheat Germplasm Lines with Combined Mutations in *SBEIIa* and *SBEIIb* Genes Conferring Increased Amylose and Resistant Starch. *J. Plant Registration* 8:334-338.

**Hazard B.,** X. Zhang, P. Colasuonno, C. Uauy, D.M. Beckles, and J. Dubcovsky. 2012. Induced Mutations in the *Starch Branching Enzyme II (SBEII)* Genes Increase Amylose and Resistant Starch Content in Durum Wheat. *Crop Science* 52:1754-1766.

### Submitted

**Hazard B.,** X. Zhang, M. Naemeh, M. K. Hamilton, B. Rust, H. E. Raybould, J. W. Newman, R. Martin and J. Dubcovsky. 2015. Mutations in Durum Wheat *SBEII* Genes Conferring Increased Amylose and Resistant Starch affect Grain Yield Components, Semolina and Pasta Quality and Fermentation Responses in Rats. *Submitted to Crop Science March 25, 2015.*

### Peer Review

Peer review of PLOS ONE Manuscript, November 2013

## Presentations

*Poster*, Yield, quality and fermentation response of durum wheat with combined mutations in *SBEIIa* and *SBEIIb* genes conferring increased amylose and resistant starch. **PNW Wheat Quality Council Meeting**, January 2015, San Francisco, CA.

*Poster*, Yield, quality and fermentation response of durum wheat with combined mutations in *SBEIIa* and *SBEIIb* genes conferring increased amylose and resistant starch. **Triticeae CAP Annual Meeting**, January 2015, San Diego, CA.

*Invited Speaker*, Resistant Starch: Development of a Nutritional Trait in Wheat. **Wheat Collaborator Meeting**, November 2014, Davis, CA.

*Invited Speaker*, Increasing resistant starch content in wheat grain using TILLING. **American Association of Cereal Chemists International Annual Meeting**, October 2014, Providence, RI.

*Invited Speaker*, Increasing resistant starch in wheat. **California Wheat Commission Board Meeting**, September 2014, Sacramento, CA.

*Speaker*, Increasing resistant starch in wheat. **UC Davis Small Grains and Alfalfa Field Day**, May 2014, Davis, CA.

*Poster*, Combined mutations in *SBEIIa* and *SBEIIb* genes in durum wheat increase the amylose and resistant starch content in the grain. **Plant and Animal Genome XXII Conference**, January 2014, San Diego, CA.

*Invited Speaker*, Increasing resistant starch in wheat using TILLING. **American Association of Cereal Chemists International Annual Meeting**, October 2013, Albuquerque, NM.

*Speaker*, Increasing resistant starch in wheat. **UC Davis Small Grains and Alfalfa Field Day**, May 2013, Davis, CA.

*Poster*, Induced mutations in the *starch branching enzyme II (SBEII)* genes increase amylose and resistant starch content in durum wheat. **Plant and Animal Genome XXI Conference**, January 2013, San Diego, CA.

*Speaker*, Induced mutations in the *starch branching enzyme II (SBEII)* genes increase amylose and resistant starch content in durum wheat. **Crop Science Society International Annual Meeting**, October 2012, Cincinnati, OH.

*Speaker*, Increasing resistant starch in wheat. **UC Davis Small Grains and Alfalfa Field Day**, May 2012, Davis, CA.

## Professional Associations

American Association of Cereal Chemists International	2014 – present
Sigma Alpha National Professional Agricultural Sorority	2007 – 2009