

## Curriculum Vitae

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### EDUCATION

- 2011 Ph.D., Plant Breeding & Genetics, Colorado State University, Fort Collins, CO
- 2008 M.S., Plant Breeding & Genetics, University of Wisconsin-Madison, Madison, WI
- 2004 B.S., Molecular Biology, University of Wisconsin-Madison, Madison, WI

### ACADEMIC POSITIONS (since 2011)

- 2014-pres Assistant Professor  
Dept. of Horticulture & Landscape Architecture, Colorado State University, Fort Collins, CO
- 2013-pres Joint Assistant Professor  
Dept. of Soil & Crop Sciences, Colorado State University, Fort Collins, CO
- 2013-2014 Research Scientist  
Proteomics & Metabolomics Facility, Colorado State University, Fort Collins, CO
- 2011-2013 Postdoctoral Scientist  
Proteomics & Metabolomics Facility, Colorado State University, Fort Collins, CO

### OTHER POSITIONS (since 2011)

- 2014-pres Faculty Consultant  
Proteomics and Metabolomics Facility, Colorado State University, CO

### HONORS & AWARDS (selected)

- 2011 Gerald O. Mott Meritorious Award, Crop Science Society of America, Dept. of Soil & Crop Sciences, CSU
- 2010 Tak Tsuchiya Student Achievement Award, Dept. of Soil & Crop Sciences, CSU
- 2010 NSF: travel award to attend 2010 US-Japan Seminar on Plant-Pathogen Interactions
- 2009 Albert K. Dobrenze Award, Western Society of Crop Science
- 2009 Asia Rice Foundation USA: travel and study award
- 2009 NSF: Rice Research to Production Short Course, awardee

## PUBLICATIONS (selected 2010-2014)

Weyman PD, Beeri K, Lefebvre SC, Rivera J, McCarthy JK, **Heuberger AL**, Peers G, Allen AE, Dupont CL (2014) "Inactivation of *Phaeodactylum tricornutum* urease gene using transcription activator-like effector nuclease-based targeted mutagenesis." *Plant Biotechnology Journal*. doi: 10.1111/pbi.12254

**Heuberger AL**, Robison FM, Lyons SM, Broeckling CD, Prenni JE (2014) "Evaluating plant immunity using mass spectrometry-based metabolomics workflows." *Frontiers in Plant Science* 5:291.

**Heuberger AL**, Prenni JE, "Utility of metabolite profiling by mass spectrometry to facilitate plant breeding for food quality: a case study in malting barley." April 2014, Information Systems for Biotechnology News Report ([www.isb.vt.edu](http://www.isb.vt.edu)).

**Heuberger AL**, Broeckling CD, Kirkpatrick K, Prenni JE (2013) "Application of non-targeted metabolite profiling to discover novel markers of quality traits in an advanced population of malting barley." *Plant Biotechnology Journal*. 12 (2), 147-160.

Abdel-Ghany S, Day I, **Heuberger AL**, Broeckling C, Reddy ASN (2013) "Metabolic engineering of *Arabidopsis* for butanetriol production using bacterial genes." *Metabolic Engineering*. 20, 109-120.

Weir T, Manter D, Sheflin A, Barnett B, **Heuberger AL**, Ryan EP (2013) "Fecal Microbiome and Metabolome Differences Between Colorectal Cancer Patients and Healthy Adults." *PLoS ONE* 8 (8): e70803.

Ryan EP, **Heuberger AL**, Broeckling C, Ollila C, Borresen E, Prenni JE. (2013) "Advances in Nutritional Metabolomics." *Current Metabolomics*, 1, 109-120.

Prenni JE, **Heuberger AL**, Sedin D. "Non-targeted Metabolite Profiling by UPLC-MS: A Case Study in Beer Reveals Effect of Temperature on Non-Volatile Small Molecules During Storage" April 2013, LC-GC North America magazine.

**Heuberger AL**, Broeckling CD, Lewis MR, Salazar L, Bouckaert P, Prenni JE (2012) "Metabolomic profiling of beer reveals effect of temperature on non-volatile small molecules during short-term storage." *Food Chemistry*. 135 (3): 1284-1289.

Broeckling CD, **Heuberger AL**, Prince J, Ingelsson E, Prenni J. (2012) "Assigning precursor-product ion relationships in indiscriminant MS/MS data from non-targeted metabolite profiling studies." *Metabolomics*. 10.1007/s11306-012-0426-4.

Broeckling CD, **Heuberger AL**, Prenni JE (2012) "Large scale non-targeted metabolomic profiling of serum by ultra performance liquid chromatograph-mass spectrometry (UPLC-MS)." *Journal of Visualized Experiments*. (73): e50242. doi: 10.3791/50242.

Ryan EP, **Heuberger AL**, Weir T, Barnett B, Broeckling C, & Prenni J (2011) "Rice bran fermented with *Saccharomyces boulardii* generates a novel metabolite profile with bioactivity". *Journal of Agricultural and Food Chemistry*. 59 (5): 1862–1870.

**Heuberger AL**, Lewis MR, Chen M-H, Brick MA, Leach JE, Ryan, EP (2010) "Metabolomic and functional genomic analyses reveal varietal differences in bioactive compounds of cooked rice." *PLoS ONE* 5(9): e12915.

Leach J, Davidson R, Mauleon R, Carillo G, Jahn C, Snelling J, Bruce M, **Heuberger AL**, Ishihara, H. Tanger P, Stephens J, Vera Cruz C, Leung H. Genome analyses to understand durable disease resistance in rice. In T. Wolpert, T. Shiraishi, A. Collmer, K. Akimitsu, J. Glazebrook (Eds.), *Genome-Enabled Integration of Research in Plant Pathogen Systems* (pp. 73-80). (2010). Minneapolis: APS Press.

Melito S, **Heuberger AL**, Cook D, Diers B, MacGuidwin A, & Bent A (2010) "A nematode demographics assay in transgenic roots reveals no significant impacts of the Rhg1 locus LRR-Kinase on soybean cyst nematode resistance." *BMC Plant Biology* 2010, 10:104.