

## CURRICULUM VITAE

**Sarah Turner Hissong**

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### Education

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- 2012-17      **Ph.D. Plant Breeding & Plant Genetics**, University of Wisconsin-Madison  
Advisor: Philipp W. Simon  
Dissertation: "Genetic influences on shoot architecture in carrot (*Daucus carota*, L.)"
- 2009-12      **M.S. Plant Breeding**, Texas A&M University, College Station  
Advisor: J. Creighton Miller, Jr.  
Thesis: "Effects of bioactive compounds from different potato genotypes on prostate cancer development in athymic nude mice"
- 2007-09      **B.S. Horticulture**, Texas A&M University, College Station (magna cum laude)

### Academic Employment

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- 2017-present      **National Science Foundation Plant Genome (NPGI) Postdoctoral Fellow**  
University of California-Davis (Advisor: Jeff Ross-Ibarra)  
University of Missouri, Columbia (Advisors: Ruthie Angelovici and J. Chris Pires)  
Project: "Quantifying the genome-wide influence of human selection on leaf morphology and amino acid metabolism in cole crops (*Brassica oleracea* L.)"

### Grants & Travel Funding

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- 2017-20      NSF National Plant Genome Initiative Postdoctoral Fellowship
- 2016      Women in Science in Engineering Leadership Institute - Celebrating Women in Science and Engineering Grant (via Plant Sciences Graduate Student Council)
- 2015      National Association of Plant Breeders Travel Award
- 2015      Ceres Trust Graduate Student Grant

### Selected Fellowships & Awards

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- 2016      2<sup>nd</sup> place – Crop Science Society of America poster competition, PAG XXIV
- 2014      Student Voice Representative, North American Agricultural Biotechnology Council (NABC) 26
- 2011      2<sup>nd</sup> place – Frank L. Haynes Graduate Student Research Competition, 95<sup>th</sup> Annual Meeting of the Potato Association of America
- 2010-12      Monsanto Plant Breeding Fellowship

## Publications

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**Turner SD**, Ellison SL, Senalik DA, Simon PW, Spalding EP, and Miller ND (2018) An automated image analysis pipeline enables genetic studies of shoot and root morphology in carrot (*Daucus carota* L.). *Frontiers in Plant Science* (accepted; *bioRxiv*, doi: 10.1101/384974)

**Turner SD**, Maurizio PL, Valdar W, Yandell BS, and Simon PW (2018) Dissecting the genetic architecture of shoot growth in carrot (*Daucus carota* L.) using a diallel mating design. *G3: Genes, Genomes, Genetics* 8(2):411-26, doi: 10.1534/g3.117.300235

### Preprints

Bird KA, **Turner SD**, Beissinger TM, Angelovici R (2018) Subset-based genomic prediction provides insights into the genetic architecture of free amino acid levels in dry *Arabidopsis thaliana* seeds. *bioRxiv* doi: 10.1101/272047

### Book Chapter

**Turner SD** (2016) Potatoes and related crops: role in the diet. In: Caballero, B., Finglas, P., and Toldrá, F. (eds.) *The Encyclopedia of Food and Health* vol. 4, pp. 452-457. Oxford: Academic Press.

## Presentations

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### Invited Talks

- 2018 "Demographic history of morphotype diversification in *Brassica oleracea*"  
Plant & Animal Genome Conference (Brassica session)
- 2018 "A high-throughput image analysis pipeline to quantify carrot shoot and root morphology"  
Plant & Animal Genome Conference (CyVerse session)
- 2016 "Diallel analysis and image-based phenotyping of top size in carrot"  
University of Missouri, Columbia (interview seminar)

### Contributed Talks

- 2014 "Evaluation of carrot for traits related to early seedling establishment and canopy growth at different planting densities in organic systems"  
Organic Agriculture Research Symposium (Abstr. p.36)
- 2011 "Effect of purple and white potato extracts on prostate cancer development in athymic mice"  
Annual Meeting of the Potato Association of America, *Amer J Potato Res* 89:49

### Poster Presentations

- 2018 "Demographic history of morphotype diversification in *Brassica oleracea*" (Plant & Animal Genome Conference, PAG)
- 2017 "Heritability and genetic basis of carrot shoot growth using Bayesian diallel analysis" (PAG)
- 2016 "Image-based phenotyping and Bayesian analysis of a diallel mating design in carrot" (National Association of Plant Breeders Annual Meeting, NAPB)
- 2016 "Diallel analysis of top size in carrot using biplots and image-based phenotyping" (International Conference on Quantitative Genetics & PAG)
- 2011 "Effects of bioactive compounds from white and purple potatoes on prostate cancer development in athymic nude mice" (NAPB)

## Training

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- 2018 Genetics Peer Review Training Program  
 2018 Center for Integrated Teaching and Learning (CIRTL) course: “Engaging Students in the Teaching of Statistics”  
 2017 Open Science Grid (OSG) User School, University of Wisconsin-Madison

## Teaching & Mentoring Experience

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- 2018 Guest lecture in General Genetics (BIO\_SC 2200), University of Missouri  
 2018 Led small group session on computer vision in biology for NSF Research Experience for Undergraduates, University of Missouri  
 2015 Mentor for Undergraduate Research Scholar (URS) program, University of Wisconsin-Madison  
 2010-2012 Teaching assistant for Horticulture 101, Texas A&M University (5 semesters)

## Professional Service & Outreach

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- 2018 Speaker at CoMO Science on Tap (outreach to present science to a public audience)  
 “Molecular Minecraft: using genetics to improve amino acid content in plants”  
 2017 Volunteer for Missouri Maize Center exhibit at the MU South Farm Showcase  
 developed flash cards with questions/facts about maize  
 2016 National Association of Plant Breeders Graduate Student Working Group (Co-chair)  
 2016, 2013 Plant Sciences Graduate Student Council (PSGSC), University of Wisconsin-Madison (Journal Club Chair, 2016; Vice President, 2013)  
 2015 Saturday Science at WI Institutes for Discovery, “Secrets of Food: Why are carrots orange?”  
 Outreach event detailing carrot domestication, breeding, and health properties (all ages)  
 2015, 2014 Wisconsin Science Festival—Discovery Expo, “Where the Wild Things Are” (all ages)  
 USDA-ARS exploration station focusing on crop wild relatives and domestication

### Journal peer review:

Genetics (1), Crop Science (1), Annals of Applied Botany (1), Plant Systematics and Evolution (1)

## Membership in Professional Societies

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- 2017- Genetics Society of America  
 2016- American Association for the Advancement of Science  
 2016- American Society of Plant Biologists  
 2016- National Association of Plant Breeders  
 2015- Agronomy, Crop Science, and Soil Science Societies of America  
 2009- Pi Alpha Xi, National Honor Society for Horticulture