SARAH TURNER-HISSONG

NSF Postdoctoral Fellow

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EDUCATION

PhD Plant Breeding & Plant Genetics

University of Wisconsin-Madison

🛗 Aug 2012 – May 2017

Madison, WI

Dissertation: Genetic influences on shoot architecture in carrot (*Daucus carota*, L.) **Advisor:** Philipp W. Simon

MS Plant Breeding

Texas A&M University Jan 2010 – May 2012

• College Station, TX

Thesis: Effects of bioactive compounds from different potato genotypes on prostate cancer in athymic nude mice **Advisor:** J. Creighton Miller, Jr.

BS Horticulture

Texas A&M University

🛗 Aug 2007 – Dec 2009

• College Station, TX

EXPERIENCE

Postdoctoral Fellow

National Science Foundation (Plant Genome Initiative)

🛗 August 2017 - Present

- **Q** University of California, Davis
- **Project:** Genome-wide influences of selection on the diversification of cole crops (*Brassica oleracea*)
- Mentors: Jeffrey Ross-Ibarra (UC Davis), Timothy Beissinger (U. Göttingen), J. Chris Pires (MU), Ruthie Angelovici (MU)

Research Intern

Seminis Vegetable Seeds, Supervisor: Terry Berke

🛗 May 2012 – August 2012 🔹 🛿 🛛 Woodland, CA

• Fine mapping of powdery mildew resistance in hot pepper

Undergraduate Researcher

Texas A&M Potato and Vegetable Legume Program

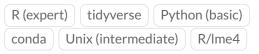
Ian 2008 – December 2009 Ocollege Station, TX

• Assisted with potato and cowpea breeding programs in the field, greenhouse, and lab

github.com/mishaploid
mishaploid.github.io

SKILLS

Data science



Genomics

GATK	Picard	amtools	PLINK
ANGSD	SMC++	LDAK	GBLUP
GFBLUP	rrBLUP	R/qtl	

High throughput computing

SLURM | HTCondor

Open Science Grid User School (2017)

Workflow management

Git (version control) Snakemake

Image analysis

PlantCV | ImageJ/Fiji | R/Momocs

PUBLICATIONS

Preprints/Under Review

- **S.D. Turner-Hissong**, K. A. Bird, A. E. Lipka, E. G. King, T. M. Beissinger, and R. Angelovici (2019). "Genomic partitioning by biological pathway improves prediction accuracy for free amino acid traits in seeds of *Arabidopsis thaliana*". v1 available on *bioRxiv* at https://doi. org/10.1101/272047.
- Yobi, A., C. Bagaza, A. Batushansky, V. Shrestha, M. Emery, S. Holden, **S.D. Turner-Hissong**, N. D. Miller, and R. Angelovici (2019). "Uncovering the complex response of free and bound amino acids to water stress during seed setting". *In review*.

Journal Articles

- S.D. Turner, S. L. Ellison, D. A. Senalik, P. W. Simon, E. P. Spalding, and N. D. Miller (2018). "An automated image analysis pipeline enables genetic studies of shoot and root morphology in carrot (Daucus carota L.)". Frontiers in Plant Science 9, p. 1703. DOI: 10.3389/fpls.2018.01703.
- S.D. Turner, P. L. Maurizio, W. Valdar, B. S. Yandell, and P. W. Simon (2018). "Dissecting the genetic architecture of shoot growth in carrot using a diallel mating design". G3: Genes Genomes | Genetics 8(2), pp. 411-426. DOI: 10.1534/g3. 117.300235.

Book Chapter

• S.D. Turner (2016). "Potatoes and related crops: role in the diet." The Encyclopedia of Food and Health. Ed. by B. Caballero, P. Finglas, and F. Toldra. Vol. 4. Oxford: Oxford Academic Press, pp. 452-457.

PROFESSIONAL SERVICE

Plant Sciences Graduate Student Council Vice President; Journal Club Chair

2013; 2016 **Q** U. Wisconsin-Madison

- Co-organized the annual DuPont Plant Sciences Symposium
- Acquired funding for and hosted professional development events and social activities
- Organized and led weekly, interdepartmental journal club discussions on scientific papers and news articles

National Association of Plant Breeders Graduate Student Working Group (Co-chair)

2016

Q U. Wisconsin-Madison

Organized and facilitated monthly meetings

OUTREACH

 CoMO Science on Tap Presenter Molecular Minecraft: Using genetics to improve amino acid content in plants

Ctober 2018

Q University of Missouri

 MU South Farm Showcase Missouri Maize Center exhibit September 2017

Q University of Missouri

- Saturday Science Secrets of Food: Why are carrots orange? Movember 2015 **Q** U. Wisconsin-Madison
- Wisconsin Science Festival

Where the Wild Things Are (USDA)

2014:2015

Q U. Wisconsin-Madison

TEACHING/MENTORING

- Guest Lecture General Genetics **BIO_SC 2200; Topic: Population Genetics** 🛗 Sept 2018 **Q** U. Missouri
- NSF-REU Small Group Leader **Topic: Computer vision in biology** 🛗 Summer 2018 • U. Missouri
- CIRTL Teaching Certification **Engaging students in statistics** Mar 2018 **Q** U. Missouri
- Undergraduate Research Program Mentee: Isaiah Garza Topic: digital measurement of seed size H Fall 2015 **9** U. Wisconsin-Madison
- Horticulture 101 **Teaching Assistant** 2010 - 2012 Texas A&M

GRANTS

 National Plant Genome Initiative **NSF Postdoctoral Fellowship**

🛗 Aug 2017 - July 2020

- Celebrating Women in Science & **Engineering Grant** via Plant Sciences Graduate Council • U. Wisconsin-Madison **#** 2016
- Graduate Student Grant **Ceres Trust #** 2015
 - **9** U. Wisconsin-Madison
- Plant Breeding Fellowship Monsanto Company **2010-2012** Texas A&M

AWARDS

- 2nd Place Crop Science Society of **America Poster Competition** Plant and Animal Genome XXIV. 2016
- 2nd Place Frank L. Haynes Graduate **Student Research Competition** Potato Association of America: 2011