

# KIRA M. VELEY, PhD

Postdoctoral Research Fellow  
Donald Danforth Plant Science Center  
975 N Warson Rd  
St. Louis, MO 63132

kveley@danforthcenter.org  
lab: (314) 9587-1693  
cell: (614) 406-7103

## RESEARCH EXPERIENCE

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**Postdoctoral Fellow**, Department of Biology

Sept. 2015 – present

**Co-Mentors:** Rebecca Bart and Jim Carrington

Research focuses:

- Catalog the sorghum microbiome and determine its role in plant development using high-throughput phenotyping methods.
- Improve disease resistance in cassava using genome editing techniques.

**Postdoctoral Fellow**, Department of Biology

April 2010 – Sept. 2015

**Mentor:** Elizabeth Haswell, Washington University, St. Louis

Research Highlights:

- Developed an assay to quantify the effect that a mechanosensitive protein has on cell death signaling and ROS production in plant cells.
- Introduced lab to a practical protocol for protoplast isolation in tobacco and Arabidopsis as well as recombinant protein production via transient expression in plants.
- Discovered that plastids are under hypoosmotic stress under normal growth conditions and that mechanosensation is used to relieve that stress.
- Discovered evidence for importance of mechanosensation in plants and pathogen detection.

**Postdoctoral Fellow**

Sept. 2009 - April 2010

**Mentor:** Eliot Herman, Danforth Plant Science Center, St. Louis

Research: Improved protocol for transformation of *Camelina sativa*

**Doctoral Thesis**, Department of Biology

Aug. 2004 - Aug. 2009

**Mentor:** Scott Michaels, Indiana University, Bloomington

Research Highlights:

- Discovered additional functional roles for floral regulatory genes.

**Honors Thesis and Research Assistant**, Dept. of Biology

May 2002 – Aug. 2004

**Mentor:** Fred Sack, Ohio State University, Columbus

Research Highlights:

- Discovered that the regulation of stomatal differentiation is organ-specific.

## EDUCATION

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<b>Indiana University</b> , Bloomington, IN Ph.D., Molecular Biology and Genetics	2009
<b>Ohio State University</b> , Columbus, OH B.S., Biology, College Honors and Distinction	2004

## SELECTED PUBLICATIONS

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**Veley, K.M.**, Maksaev, G., Frick, E.M., January, E., Kloepper, S.C., and Haswell, E.S., MSL10 has a regulated cell death signaling activity that is separable from its mechanosensitive ion channel activity. *Plant Cell* 2014. 26(7): p. 3115-3131.

**Veley, K.M.**, Marshburn, S., Clure, C.E., and Haswell, E.S., Mechanosensitive Channels Protect Plastids from Hypoosmotic- Stress During Normal Plant Growth. *Current Biology*, 2012. 22(5): p. 408-413.

**Veley, K.M.** and Haswell, E.S., Plastids and Pathogens: Mechanosensitive Channels and Survival in a Hypoosmotic World. *Plant Signaling and Behavior*, 2012. 7(6): p. 668-671.

Feng, W., Jacob, Y., **Veley, K.M.**, Ding, L., Yu, X., Choe, G., and Michaels, S.D., Hypomorphic alleles reveal FCA-independent roles for FY in the regulation of FLC. *Plant Physiology*, 2011. 155(3): p. 1425-1434.

Bhave, N. S., **Veley, K.M.**, Nadeau, J., Lucas, J.R., Bhave, S.L., and Sack, F.D., TOO MANY MOUTHS promotes cell fate progression in stomatal development of Arabidopsis stems. *Planta*, 2009. 229(2): p. 357-367.

**Veley, K.M.** and S.D. Michaels, Functional Redundancy and New Roles for Genes of the Autonomous Floral-Promotion Pathway. *Plant Physiology*, 2008. 147(2): p. 682-695.

## LEADERSHIP TRAINING and MENTORSHIP

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<i>Mentor</i> , Wash U, Summer Undergraduate Research Fellowship, Sarah Kloepper	Summer 2013
<i>Graduate Rotation Project Supervisor</i> , Wash U, Elizabeth Frick	Spring 2013
<i>Mentor</i> , Wash U, Undergraduate Independent Study Course, Sarah Kloepper	Spring 2013
<i>Mentor</i> , Senior Research Program for local high school (MICDS), Arianna Riggs	Spring 2012
<i>Mentor</i> , Wash U, Undergraduate Independent Study Course, Ray Kim	Spring, Summer 2012
<i>Teaching Assistant</i> , Genetics, Indiana University	2008-2009
<i>Training</i> , Z620 Mentored Teaching, training course on effective teaching	Spring 2008
<i>Mentor</i> , Indiana University, three undergraduate research assistants	2007-2008

## PRESENTATIONS and SCIENCE COMMUNITY INVOLVEMENT

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<i>Poster</i> , ASPB-Midwest Chapter Meeting, St. Louis, MO	March 2015
<i>Poster</i> , Host-Microbe Interactions Symposium, St. Louis, MO	September 2014
<i>Speaker</i> , Biology Dept. Seminar Series, SIUE, Edwardsville, IL	February 2014
<i>Speaker</i> , Plant Biology Annual Retreat, St. Louis, MO	October 2013
<i>Poster</i> , ASPB Annual Conference, Providence, RI	July 2013
<i>Speaker</i> , Midwest Plant Cell Dynamics Meeting, Madison, WI	June 2013
<i>Poster</i> , Plant Biology Annual Retreat, St. Louis, MO	Oct. 2012 - 2014
<i>Poster</i> , Wash U Postdoc Research Symposium	March 2012
<i>Speaker</i> , Plant Biology Annual Retreat, St. Louis, MO	October 2011
<i>Judge</i> , Indiana Regional Science Fair, Bloomington, IN	April 2008, 2009

<i>Member</i> , American Society of Plant Biologists (ASPB)	2007-2015
<i>Poster</i> , ASPB Plant Biology and Botany Joint Congress, Chicago, IL	July 2007
<i>Poster</i> , UC Riverside Symposium in Plant Biology, Riverside, CA	January 2007
<i>Participant</i> , International Conference on Arabidopsis Research, Madison, WI	July 2005
<i>Poster</i> , Denman Undergraduate Research Forum, Columbus, OH	April 2004

## **FELLOWSHIPS, GRANTS and AWARDS**

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Outstanding Research Poster Award, WUSTL PMB Annual Retreat	2014, 2012
ASPB Travel Grant	2013
NSF Travel Fellowship	2013
NAASC ICAR Travel Grant (declined)	2013
National Science Foundation Graduate Training Fellowship	2004-2007
Indiana University Department of Biology Travel Award	2007
Deanman Undergraduate Research Forum Presenter Award	2004
Dean's Undergraduate Research Fund Award	2003
Scarlet and Grey Scholarship	2000-2004
Trustees Scholarship	2000-2004

## **REFERENCES**

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### **Dr. Rebecca Bart**

Donald Danforth Plant Science Center  
975 N Warson Rd  
St. Louis, MO 63132  
314-587-1696  
rbart@danforthcenter.org

### **Dr. James Carrington**

Donald Danforth Plant Science Center  
975 N Warson Rd  
St. Louis, MO 63132  
314-587-1201  
jcarrington@danforthcenter.org

### **Dr. Elizabeth Haswell**

Department of Biology  
Washington University  
One Brookings Drive  
St. Louis, MO 63130  
314-935-9223  
ehaswell@wustl.edu

### **Dr. Scott Michaels**

Department of Biology  
Indiana University  
915 East Third Street  
Bloomington, IN 47405  
812-856-0302  
michaels@indiana.edu