

Dior R. Kelley

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Education

Doctor of Philosophy, Plant Biology, 2009, University of California, Davis, CA
Bachelor of Science, Chemistry, 2000, University of California, Santa Cruz, CA

Professional Appointments

2019-Present Assistant Professor, Department of Genetics, Development and Cell Biology, Iowa State University
2015-2018 Adjunct Assistant Professor, Department of Genetics, Development and Cell Biology, Iowa State University
2011-2014 Postdoctoral Researcher, Division of Biological Sciences, University of California, San Diego (UCSD)
2009-2011 NIH Postdoctoral Fellow, Salk Institute for Biological Sciences, La Jolla, CA
2004-2009 Graduate Student, Department of Molecular and Cellular Biology, University of California, Davis (UCD)
2002-2004 Staff Research Associate, Plant Gene Expression Center, Albany, CA
1999-2000 Undergraduate Researcher, University of California, Santa Cruz, CA
1997-1999 Laboratory Assistant, University of California, Santa Cruz, CA

Preprints

Kelley, D.R.*, Shen, Z., Walley, J.W., Chapman, E.J., Briggs, S. P., Estelle, M.* (2017) Quantitative proteomic analysis of auxin signaling during seedling development. *bioRxiv*: doi.org/10.1101/211532. *Co-corresponding authors

Publications

Clark, N.M., Shen, Z., Briggs, S.P., Walley, J.W., **Kelley, D.R.** (2019) Auxin induces widespread proteome remodeling in Arabidopsis seedlings. *Proteomics* 05 Aug:e1900199. doi: 10.1002/pmic.201900199. [Epub ahead of print]. (Cover article).

Pu, Y., Walley, J.W., Shen, Z., Lang, M.*, Briggs, S.P., Estelle, M., **Kelley, D.R.** (2019) Quantitative early auxin root proteomics identifies GAUT10, a galacturonosyltransferase, as a novel regulator of root meristem maintenance. *Molecular and Cellular Proteomics*, in press. <https://doi.org/10.1074/mcp.RA119.001378>. *Undergraduate researcher. (Cover Article).

Kelley, D.R. (2018) E3 ubiquitin ligases: key regulators of hormone signaling in plants. Invited review, *Molecular and Cellular Proteomics* 17 (6): 1047-1054. DOI: <https://doi.org/10.1074/mcp.MR117.000476>.

Gilkerson, J., **Kelley, D.R.**, Tam, R., Estelle, M., and Callis, J. (2015) Lysine residues are not required for proteasome-mediated proteolysis of the Aux/IAA protein IAA1. *Plant Physiology* 168: 708-720. DOI: <https://doi.org/10.1104/pp.15.00402>.

Kelley, D.R. and Estelle, M. (2012) Ubiquitin-mediated control of plant hormone signaling. Invited review, *Plant Physiology* 160(1): 47-55.

Kelley, D.R., Arreola, A., Gallagher, T., and Gasser, C.S. (2012) ETTIN (ARF3) physically interacts with KANADI proteins to form a functional complex essential for integument development and polarity determination in *Arabidopsis*. *Development* 139(6): 1105-9.

Walley, J.W., **Kelley, D.R.**, Savchenko, T., and Dehesh, K. (2010) Investigating the function of CAF1 deadenylases during plant stress responses. *Plant Signaling & Behavior* 5(7):802-5.

Walley, J.W., **Kelley, D.R.**, Nestorova G, Hirschberg D, Dehesh, K. (2010) *Arabidopsis* deadenylases AtCAF1a and AtCAF1b mediate response to environmental stress. *Plant Physiology* 152(2): 866-75.

Kelley, D.R., and Gasser, C.S. (2009) Ovule Development: Genetic Trends and Evolutionary Considerations. *Sexual Plant Reproduction* 22(4): 229-34.

Kelley, D.R., Skinner, D, and Gasser, C.S. (2009) Roles of polarity determinants in ovule development. *The Plant Journal* 57(6): 1054-64. (Cover article).

Kaothien, P., Ok, S.H., Shuai, B., Wengier, D., Cotter, R., **Kelley, D.R.**, Kiriakopolos, S., Muschietti, J., and McCormick, S. (2005) Kinase partner protein interacts with the LePRK1 and LePRK2 receptor kinases and plays a role in polarized pollen tube growth. *The Plant Journal* 42 (4): 492-503.

Tang, W.H., **Kelley, D.R.**, Ezcurra, I., Cotter, R., and McCormick, S. (2004) LeSTIG1, an extracellular binding partner for the pollen receptor kinases LePRK1 and LePRK2, promotes pollen tube growth in vitro. *The Plant Journal* 39(3): 343-53.

Awards and Honors

- 2019 American Association of University Women Research Publication Grant (\$28,874).
- 2016 American Society of Plant Biologists WYITA award (\$1,000).
- 2015 Cell Signaling Technology PTMscan Kit prize winner (\$2,375).
- 2011 NIH Ruth L. Kirschstein National Research Service Award Postdoctoral Fellowship.
- 2010 Pioneer Fund Postdoctoral Fellowship, competitively awarded, Salk Institute for Biological Studies (\$37,368).
- 2009 Graduate Student Travel Award, 20th ICAR.
- 2005-2008 Trainee, NIH MCB Graduate Training Grant, competitively awarded.
- 2007 MORPH Travel Grant.

Teaching and Mentorship

- F2019 GDCB 545, Plant Molecular, Cell and Developmental Biology (33% co-instructor).
- S2109 BCB 593, Workshop in Bioinformatics (50% co-instructor).
- F2018 GEN 409, Molecular Genetics, Iowa State University (50% co-instructor).
- F2016, F2017 GDCB 544, Fundamentals of Bioinformatics, Iowa State University.
- F2016 GENET 690, Graduate Seminar, Iowa State University.
- 2015-2018 BIO 499, Undergraduate Research Experience, Iowa State University. (five female students mentored to date)
- 2015 *Resident Scientist*, McCombs Middle School, Des Moines, IA. Collaborated with a NSF Symbi GK-12 Fellow to develop a “Gene Expression” activity for 8th grade science classes.
- 2014 *Mentor*, UC-Howard summer program (UC-HBCU initiative).
- 2014 Outreach *Instructor*, Roosevelt middle school workshop.
- 2011 High School Outreach *Instructor*, Salk Institute 21st Annual High School Science Day. “Embryo patterning” activity for high school students.
- 2009 *Co-Instructor*, PBI 290 PBGG Core Course, UC Davis.
- 2005, 2008 *Teaching Assistant*, EVE 140, Paleobotany, UC Davis.
- 2007 *Guest Lecturer*, MCB 145, Cell Signaling, UC Davis.

Leadership and Service

- 2019 – Loomis Symposium Co-organizer, Iowa State University.
- 2018 – present *Faculty Advisor*, Bioinformatics & Computational Biology Graduate Student Organization, Iowa State University.
- 2017 – present Diversity & Inclusion Committee, CALS, Iowa State University.
- 2016 – present Departmental Seminar Committee, GDCB, Iowa State University.
- 2017 – present American Society of Plant Biologists, *member*.
- 2016 – present Interdepartmental Genetics & Genomics graduate program curriculum committee.
- 2016 – present Faculty LEA/RN group member (learning-centered techniques).
- 2015 – 2018 Art in State Buildings committee, Iowa State University.
- 2013 – present Reviewer: *Nature Communications, Molecular Biology and Evolution, New Phytologist, Molecular & Cellular Proteomics, Scientific Reports, Ann. Botany*.
- 2012 – Systems Biology: Morphogenesis & Spatial Dynamics, short course, UC Irvine.
- 2009 – HHMI Entering *Mentoring Seminar*, ten-week workshop, UC Davis.
- 2007 – MORPH workshop participant, University of Colorado, Boulder, CO.
- 2006 – Scientific Professionalism and Integrity, 10-week course, UC Davis.
- 2005 – 2008 Recruitment Chair, Plant Biology Graduate Student Association, UC Davis.

Invited Talks

- 2019 – Invited speaker, Local Auxin Meeting, Tyson Research Center, St. Louis, MI.
- 2018 – Keynote speaker, Local Auxin Meeting, Columbia, Missouri.
- 2018 – Invited speaker, UC Davis Plant Biology Graduate Program Seminar Series.
- 2009 – Invited Speaker, Society for Developmental Biology Meeting, San Francisco, CA.

2007 – Invited Speaker, MORPH workshop on Plant Evo-Devo, Boulder, CO.

Conferences

2019 – Poster presentation, 23rd International Conference on Plant Growth Substances, Paris, France.

2017 – Poster presentation, American Society of Plant Biologists Annual Conference, HI.

2016 – Poster presentation, International Plant Growth Substances Conference, Toronto.

2014 – Poster presentation, Plant Molecular Biology Gordon Research Conference, VT.

2012 – Poster Presentation, Auxin Meeting, Hilo, HI.

2009 – Poster Presentation, International Conference on Arabidopsis Research, HI.

2007 – Oral Presentation, NAIST Global COE International Workshop, Nara, Japan.

2007 – Poster Presentation, Global COE International Symposium, NAIST, Nara, Japan.

2007 – Poster Presentation, American Society of Plant Biologists Annual Conference, IL.

2002 – Poster Presentation, American Society for Cell Biology Meeting, CA.