

## ELIZABETH S. HASWELL

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Professor  
Department of Biology  
Washington University  
Saint Louis, MO 63130

ehaswell@wustl.edu  
office: (314) 935-9223  
cell: (314) 401-6415  
haswelllab.org

### MISSION

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To create new knowledge of and appreciation for plant mechanobiology; to help trainees and students develop the habits of mind that will equip them for their future lives *and* for the future of our world; to advocate for an academic culture that values sustainability, diversity, and authenticity.

### RESEARCH INTERESTS

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My research group aims to identify the molecular and cellular mechanisms by which cells sense and respond to physical forces. We are studying the structure, function, regulation, and evolution of mechanosensitive ion channels in the green lineage, using molecular genetics, single-channel patch clamp electrophysiology, live-imaging, and computational modeling approaches. We are also engaged in functional and genetic screens designed to identify novel mechanosensory proteins, and in the development of new tools for the non-invasive analysis of membrane forces.

### APPOINTMENTS

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#### Washington University in St. Louis

Professor, Department of Biology	2019-present
Member, Center for Science and Engineering of Cellular Systems	2019
Member, Center for Engineering Mechanobiology	2017
Associate Professor, Department of Biology	2014-2019
Assistant Professor, Department of Biology	2007-2014
Adjunct Member of the Faculty, University of Toledo	2021-2024

### EDUCATION

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<b>California Institute of Technology</b>	2000-2007
Postdoctoral Training	
<b>University of California-San Francisco</b>	1994-2000
Ph.D., Biochemistry	
<b>University of Washington, Seattle</b>	1989-1993
B.S., Biochemistry, College Honors, <i>magna cum laude</i>	

### FELLOWSHIPS AND AWARDS

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HHMI-Simons Faculty Scholar	2016
Visiting Professor, Sainsbury Lab, Cambridge University	2016
Visiting Fellow, Clare Hall, Cambridge, UK	2016
NSF Early Faculty Career Development Award	2013
Colvin Fund for Research Initiatives in Biomedical Sciences	2001
DOE Fellow of the Life Sciences Research Foundation	2000
UCSF Chancellor's Award for the Advancement of Women	1999
National Science Foundation Graduate Research Fellowship	1994
Merck Index Award for Excellence in Chemistry	1993
University of Washington Honors Scholarship	1990
National Merit Foundation Scholarship	1989
Seafirst Scholar Excellence Award	1989
University of Washington President's Scholarship	2016

## PEER-REVIEWED PUBLICATIONS

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 Haswell Group Authors: <sup>1</sup>Undergraduate, <sup>2</sup>PhD student, <sup>3</sup>Postdoctoral Fellow, <sup>4</sup>Technician
 

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1. J. M. Codjoe<sup>2</sup>, K. Miller<sup>2</sup> and E. S. Haswell. (2021). Plant Cell Mechanobiology: Greater than the Sum of its Parts. *Plant Cell*, *in press*.
2. I. Radin<sup>3</sup> and E. S. Haswell. (2022). Plant Mechanobiology Through an Evolutionary Lens. *Current Opinion in Plant Biology* 65:102112.
3. J. Moe-Lange, N. M. Gappel, M. Machado, M. M. Wudick, C. S. A. Sies, S. N. Schott-Verdugo, M. Bonus, S. Mishra, T. Hartwig, M. Bezruczyk, D. Basu<sup>3</sup>, E. E. Farmer, H. Gohlke, A. Malkovskiy, E. S. Haswell, M. J. Lercher, D. W. Ehrhardt, W. B. Frommer & T. J. Kleist. (2021). Interdependence of a mechanosensitive anion channel and glutamate receptors in distal wound signaling. *Science Advances* 7:eabg4298.
4. I. Radin<sup>3</sup>, R. Richardson<sup>4</sup>, J. Coomey<sup>3</sup>, E. Weiner<sup>1</sup>, C. J. Bascom, T. Li, M. Bezanilla and E. S. Haswell. (2021). Plant PIEZO Homologs Modulate Vacuole Morphology During Tip Growth. *Science*. 373: 586-590.  
 Research Highlight, *Nature Structural & Molecular Biology*  
 Editorial Highlight, *Molecular Plant*  
 Recommended in *Faculty Opinions*  
 Featured in *Plant Science Research Weekly*
5. A. Schlegel<sup>2</sup> and E. S. Haswell. (2020). Charged pore-lining residues are required for normal channel kinetics in the eukaryotic mechanosensitive ion channel MSL1. *Channels*. 14:1, 310-32.
6. Z. Deng, G. Maksaev\*, A. Schlegel<sup>2\*</sup>, J. Zhang, M. Rau, J. Fitzpatrick, E. S. Haswell and P. Yuan. Structural mechanism for gating of a eukaryotic mechanosensitive channel of small conductance. (2020). *Nature Communications* 11(1):3690. \*equal contributions.
7. D. Basu<sup>3</sup> and E. S. Haswell. (2020). The Mechanosensitive Ion Channel MSL10 Potentiates Responses to Cell Swelling in Arabidopsis Seedlings. *Current Biology*. 30:2716-2728.  
 Dispatch, Plants Turn Down the Volume to Respond to Cell Swelling” *Current Biology*.  
 Research Highlights, “Mechanosensitive channels: too much pressure” *Nature Plants*.  
 Recommended in *Faculty Opinions*.
8. D. Basu<sup>3</sup>, J. Shoots<sup>2</sup>, and E. S. Haswell. (2020). Interactions between the N- and C- termini of mechanosensitive ion channel AtMSL10 are consistent with a three-step mechanism for activating its signaling function. *Journal of Experimental Botany* 71:4020-4032.  
 Featured on Plantae Plant Science Weekly
9. A. M. Schlegel<sup>2</sup> and E. S. Haswell. (2020). Plant Biomechanics: No Pain, No Gain for Birch Tree Stems. *Current Biology* 30: R164-166
10. J. S. Lee<sup>1</sup>, M. E. Wilson<sup>3</sup>, R. Richardson<sup>4</sup> and E. S. Haswell. (2019). Genetic and physical interactions between mechanosensitive ion channel homologs MscS-Like (MSL)1, 2, and 3 reveal their role in intra-organellar communication. *Plant Direct* 3:e00124.  
 Plant Direct Q & A with Author Elizabeth Haswell
11. N. Herrera, G. Maksaev<sup>3</sup>, E. S. Haswell, and D. C. Rees. (2018). Elucidating a role for the cytoplasmic domain in the *Mycobacterium tuberculosis* mechanosensitive channel of large conductance. *Scientific Reports* 8:14566.
12. G. Maksaev<sup>3</sup>, J. Shoots<sup>2</sup>, S. Ohri<sup>1</sup> and E. S. Haswell. (2018). Nonpolar Residues in the Presumptive Pore-Lining Helix of Mechanosensitive Channel MSL10 Influence Channel Behavior and Confirm its Non-Conducting Function. *Plant Direct* 2:e00059
13. E. S. Haswell and Ram Dixit. (2018). Counting What Counts: The Importance of Quantitative Approaches to Studying Plant Cell Biology. *Current Opinion in Plant Biology* 46: 1-3.
14. K. Fal, M. Liu, A. Duisembekova, E. S. Haswell and O. Hamant. (2017). Phyllotactic Variance is Regulated by the Paf1C Protein VIP3. *Development* 144:4428-4436.  
 Selected to appear in a special issue celebrate the 100-year anniversary of D’Arcy Thompson's 'On Growth and Form'.

15. E. S. Hamilton<sup>2</sup> & E. S. Haswell. (2017). The Tension-sensitive Ion Transport Activity of MSL8 is Critical for its Function in Pollen Hydration and Germination. *Plant Cell and Physiology* 58:1222-1237.  
Highlighted on **The Node** blog  
Editor's Choice and Author profile  
Featured on the cover
16. D. S. Stone, E. S. Haswell and E. Sztul. (2017). Finding your inner modeler: an NSF-sponsored workshop to introduce cell biologists to modeling/computational approaches. *Cellular Logistics*, 7:4, e1382669.
17. D. Basu<sup>3</sup> and E. S. Haswell. (2017). Plant Mechanosensitive Ion Channels: An Ocean of Possibilities. *Current Opinion in Plant Biology*, 40:43-48.
18. O. Hamant and E. S. Haswell. (2017). Life Behind the Wall: Sensing Mechanical Cues in Plants. *BMC Biology*, 15:59.
19. G. S. Jensen<sup>4</sup>, K. Fal, O. Hamant and E. S. Haswell. (2017). The RNA Polymerase-Associated Factor 1 (Paf1) Complex is Required for Touch Responses in Plants. *Journal of Experimental Botany* 68:499-511.
20. C. P. Lee, G. Maksaev<sup>3</sup>, G. Jensen<sup>4</sup>, M. Murcha, M. E. Wilson<sup>3</sup>, M. Fricker, R. Hell, E. S. Haswell, A. H. Millar and L. Sweetlove. (2016). MSL1 is a mitochondrial mechanosensitive ion channel that dissipates membrane potential and maintains redox homeostasis in mitochondria during abiotic stress. *Plant Journal* 88:809-825.
21. M. E. Wilson<sup>3</sup>, Matt Mixdorf<sup>4</sup>, R. H. Berg and E. S. Haswell. (2016). Plastid Osmotic Shock Influences Dedifferentiation at the Plant Shoot Apex. *Development* 143: 3382-3393.
22. D. R. Luesse, M. E. Wilson<sup>3</sup> and E. S. Haswell. (2015). RNA-Sequencing Analysis of the *msl2msl3*, *crl*, and *ggps1* Mutants Indicates that Diverse Sources of Plastid Dysfunction do not Alter Leaf Morphology Through a Common Signaling Pathway. *Frontiers in Plant Science* 6:1148.
23. E. S. Hamilton<sup>2</sup>, G. S. Jensen<sup>4</sup>, G. Maksaev<sup>3</sup>, A. Katims<sup>1</sup>, A.M. Sherp and E. S. Haswell. (2015). Mechanosensitive Ion Channel MSL8 Regulates Osmotic Forces During Pollen Hydration and Germination. *Science* 350:438-441.  
Editor's Choice, *The Scientist*  
Recommended in *Faculty Opinions*.
24. S. M. Brady, M. Burow, W. Busch, O. Carlborg, K. J. Denby, J. Glazebrook, E. S. Hamilton<sup>2</sup>, S. Harmer, E. S. Haswell, J. N. Maloof, D. Kliebenstein. (2015). Reassess the t-test: Interact with All Your Data Via ANOVA. *Plant Cell* 27:2088-94.
25. E. S. Haswell and P. E. Verslues. (2015). The Ongoing Search for the Molecular Basis of Plant Osmosensing. *Journal of General Physiology* 145:398-394.  
Featured on the cover of the May 2015 issue.
26. E. S. Hamilton<sup>2</sup>, A. Schlegel<sup>2</sup>, and E. S. Haswell. (2015). United in Diversity: Plant Mechanosensitive Channels. *Annual Review of Plant Biology* 66:113-137.
27. K. M. Veley<sup>3</sup>, G. Maksaev<sup>3</sup>, S. M. Kloepper<sup>1</sup>, E. M. Frick, E. January<sup>4</sup> and E. S. Haswell. (2014). MSL10 has a Regulated Cell Death Signaling Activity that is Separable from its Mechanosensitive Ion Channel Activity. *Plant Cell* 26:3115-31.
28. M. E. Wilson<sup>2</sup>, M. R. Basu<sup>1</sup>, G. B. Bhaskara, P. E. Verslues, and E. S. Haswell. (2014). Plastid Osmotic Stress Activates Cellular Osmotic Stress Responses. *Plant Physiology* 165:119-128.
29. M.E. Wilson<sup>2</sup>, G. Maksaev<sup>3</sup>, and E. S. Haswell. (2013). MscS-like Mechanosensitive Ion Channels in Plants and Microbes. *Biochemistry* 52 (34): 5708-5722.
30. G. E. Monshausen & E. S. Haswell. (2013). A Force of Nature: Molecular Mechanisms of Mechanoperception. *J. Experimental Botany* 64(15):4663-80.
31. G. Maksaev<sup>3</sup> and E. S. Haswell. (2013). Recent Characterizations of MscS and its Homologs Provide Insights into the Basis of Ion Selectivity. *Channels* 7(3):215-220.  
Featured on the cover of the May/June 2013 issue.

32. G. Maksaev<sup>3</sup> and E. S. Haswell. (2012). MscS-Like10 is a Stretch-Activated Ion Channel from *Arabidopsis thaliana* with a Preference for Anions. ***Proceedings of the National Academy of Sciences*** 109:19015-19020.
33. G. S. Jensen<sup>4</sup> and E. S. Haswell. (2012). Functional Analysis of Conserved Motifs in the Mechanosensitive Channel Homolog MscS-Like2 from *Arabidopsis thaliana*, ***PLOS ONE*** 7(6):e40336.
34. K. M. Veley<sup>3</sup>, S. Marshburn<sup>4</sup>, C. Clure<sup>1</sup> and E. S. Haswell. (2012). Mechanosensitive Channels Protect Plastids from Hypoosmotic Shock During Normal Plant Growth. ***Current Biology*** 22:408-413.
35. K. M. Veley<sup>3</sup> and E. S. Haswell. (2012). Plastids and Pathogens: Mechanosensitive Channels and Survival in a Hypoosmotic World. ***Plant Signaling & Behavior*** 7:668-671.
36. M. E. Wilson<sup>2</sup> and E. S. Haswell. (2012). A Role for Mechanosensitive Channels in Chloroplast and Bacterial Fission. ***Plant Signaling & Behavior*** 7:157-60.
37. G. Maksaev<sup>3</sup> and E. S. Haswell. (2011). Expression and Characterization of the Bacterial Mechanosensitive Channel MscS in *Xenopus laevis* Oocytes. ***J. General Physiology*** 138: 641-9.
38. M. E. Wilson<sup>2</sup>, G. S. Jensen<sup>4</sup>, and E. S. Haswell. (2011). Two Mechanosensitive Channel Homologs Influence FtsZ Ring Placement in *Arabidopsis*. ***Plant Cell*** 23: 2939-2949.  
Featured on the cover of the May/June 2013 issue.
39. E. S. Haswell, R. Phillips, and D. R. Rees. (2011). Mechanosensitive Channels: What Do They Do and How Do They Do It? ***Structure*** 19: 1356-1369.
40. E. S. Haswell<sup>4</sup>, R. Peyronnet<sup>4</sup>, H. Barbier-Brygoo, E. M. Meyerowitz, and J-M. Frachisse. (2008). Two MscS Homologues Required for Mechanosensitive Channel Activities in the *Arabidopsis* Root. ***Current Biology*** 18: 730-734. <sup>4</sup>Equal Contribution
41. R. Peyronnet, E. S. Haswell, H. Barbier-Brygoo, and J-M. Frachisse. (2008). AtMSL9 and AtMSL10: Sensors of Plasma Membrane Tension in the *Arabidopsis* Root. ***Plant Signaling & Behavior*** 3: 726-729.
42. E. S. Haswell and E. M. Meyerowitz. (2006). MscS-like Proteins Control Plastid Size and Shape in *Arabidopsis thaliana*. ***Current Biology*** 16: 1-11.  
Dispatch: K. Pyke. (2006). Plastid Division: The Squeezing gets Tense. ***Current Biology***  
Recommended in ***Faculty Opinions***.
43. E. S. Haswell. (2003). Gravity Perception: How Plants Stand up for Themselves. ***Current Biology*** 13: R761-R763.
44. D. J. Steger, E. S. Haswell, A. L. Miller, S. R. Went, and E. K. O'Shea. (2003). Regulation of Chromatin Remodeling by Inositol Polyphosphates. ***Science*** 5603: 114-116.
45. E. S. Haswell and E. K. O'Shea. (1999). An In Vitro System Recapitulates Chromatin Remodeling at the PHO5 Promoter. ***Molecular and Cellular Biology*** 19: 2817-2827.
46. E. S. Haswell and E. K. O'Shea. (1998). Specificity of ATP-Dependent Chromatin Remodeling at the Yeast PHO5 Promoter. ***Cold Spring Harbor Symposium on Quantitative Biology*** 63: 563-567.

### Book Chapters

1. A. Schlegel<sup>2</sup> and E. S. Haswell. (2020). Analyzing plant mechanosensitive ion channels expressed in giant *E. coli* spheroplasts by single channel patch-clamp electrophysiology. For: ***Methods in Cell Biology***. 160:61-82. <https://doi.org/10.1016/bs.mcb.2020.02.007>
2. G. Maksaev<sup>3</sup> and E. S. Haswell. (2015). Expression and Characterization of Mechanosensitive Ion Channels in *Xenopus* Oocytes. ***Plant Gravitropism: Methods and Protocols***. 1309:151-69.
3. E. S. Haswell (2007). MscS-like Proteins in Plants. ***Current Topics in Membranes*** 58: 329-359.

### Opinion Pieces/White Papers about Scientific Culture

1. J. Friesner, A. Colon-Carmona, A. Schnoes, A. Stepanova, G. Mason, G. MacIntosh, H. Ullah, I. Baxter, J. Callis, K. Sierra-Cajas, K. Elliott, E. S. Haswell, M. E. Zavala, M. Wildermuth, M. Williams, M. Ayalew, N. Henkhaus, N. Prunet, P. Lemaux, R. Yadegari, R. Amasino, R. Hangarter, R. Innes, S. Brady, T. Long, T. Woodford-Thomas, V. May, Y. Sun, and Jose Dinneny (2021). Broadening the impact of plant science through innovative, integrative and inclusive outreach. ***Plant Direct***. 5:e00316.

2. Bowditch D, Desai TA, DePace A, Haswell ES, Baltrus D, García AJ, Deans T, Lage K, Wittkopp P. (2021). Leadership. *Cell Systems*. 12(1):1-4.
3. E. S. Haswell (2020). Reaching Across the Aisle: The Inner and Outer lives of Religious Scientists. *Small Pond Science Blog*. <https://tinyurl.com/yymgzdc6>
4. N. Henkhaus, M. Bartlett, D. Gang, R. Grumet, I. Jordon-Thaden, A. Lorence, E. Lyons, S. Miller, S. Murray, A. Nelson, C. Specht, B. Tyler, T. Wentworth, D. Ackerly, D. Baltensperger, P. Benfey, James B., S. Chellamma, R. Crowder, M. Donoghue, J. P. Dundore-Arias, J. Fletcher, K. Gillespie, L. Guralnick, E. Haswell, M. Hunter, S. Kaeppler, S. Kepinski, F.-W. Li, S. Mackenzie, L. McDade, Y. Min, J. Nemhauser, B. Pearson, P. Petracek, K. Rogers, A. Sakai, D. Sickler, T. Spady, C. Taylor, L. Wayne, O. Wendroth, F. Zapata, and D. Stern. (2020). Plant Science Decadal Vision 2020-2030: Reimagining the Potential of Plants for a Healthy and Sustainable Future. *Plant Direct*. 4 (8): e00252
5. J. Nemhauser & E. S. Haswell. (2019). What if Plant Scientists Were as Diverse as The Plants We Study? *Plantae Blog and ASPB Newsletter*. <https://tinyurl.com/yxdnjsoe>
6. E. S. Haswell. Q & A Liz Haswell (2019). *Current Biology* 29: R556-R557.
7. E. S. Haswell. (2017). The Sustainable Professor. *eLIFE*, 6:e31083.
8. S. Bell, J. Blumstein, K. Brose, A. Carroll, J. Chang, J. Charles, E. S. Haswell, M. Michelitsch, J. Owens, C. K. Patil, R. Smith, J. Tupy, E. Walsh, T. Ware. (2014). Defining Success in Graduate School. *Molecular Biology of the Cell* 25:1942-1944.

## RESEARCH SUPPORT

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### Current

**NSF MCB 1929355**. *Pollen: A Model System for Computational and Experimental Study of Plant Biomechanics at the Cellular Scale*

Haswell, PI; Carlsson, co-PI

Sept 2019-Aug 2022

**HHMI-Simons Faculty Scholar Grant 55108530**. *Opening Ancient Doors: Mechano-transduction and Bioelectricity in Plants*

Haswell, PI

November 2016-October 2022

**NSF Science & Technology Center Grant 1548571**. *Engineering Mechanobiology*

Shenoy, Center PI; Haswell, Subaward PI

Oct 2016-Sept 2021

**NSF Science & Technology Center Grant (Renewal)**. *Engineering Mechanobiology*

Shenoy, Center PI; Haswell, Subaward PI

Oct 2021-Sept 2025

### Past

**NSF CAREER MCB-1253103**. *The Function, Regulation, and Molecular Identity of Mechanosensitive Channels in Arabidopsis thaliana*

Haswell, PI.

Jan 2013-Dec 2019

**Research Opportunity Award for Research in Undergraduate Institutions**

July 2014-Dec 2014

**NIH 2R01GM084211-5A1**. *Biophysical, Structural, and Functional Analysis of Mechanosensitive Channels*

Rees (Caltech), PI; Phillips (Caltech), and Haswell, co-PIs.

Sept 2013-Mar 2018

**Gordon and Betty Moore Foundation.** *Membrane Forces in Bacteria and Plants: from Basic Biophysics to Designer Organisms*

Cohen (Harvard), PI and Haswell, co-PI.

July 2013-Sept 2017

**NASA NNX13AM55G.** *Mechanosensitive Channels in Plants: Genetic, Computational, and Systems-Level Approaches to Understanding their Proposed Role in Gravity Perception*

Haswell, PI, Spalding (U. Wisconsin, Madison) co-PI.

August 2013-July 2017

**I-CARES.** *A Multidisciplinary Approach to Understanding How the Biomechanical Properties of the Cell Membrane Contribute to Ozone Injury in Plants*

Haswell, PI.

May 2012-April 2013

**NIH R01GM084211-01.** *Biophysical, Structural, and Functional Analysis of Mechanosensitive Channels*

Rees, PI; Phillips and Haswell, co-PIs.

Sept. 2008- Aug. 2012

**NIH R01GM084211-01. Administrative Supplement.**

Sept 2009-Sept 2011

**NIH R01GM084211-01. Interim Funding**

Sept 2012- Aug 2013

**NSF MCB-0816627.** “Mechanosensitive Channels and Organelle Morphology.”

Haswell, PI.

July 2008 - June 2011. No-cost extension to June 2012.

**Monsanto/Washington U. Plant Science Program.** “Gene Discovery in Arabidopsis: Identifying and Characterizing Master Regulators of Plant Thigmomorphogenesis.”

Haswell, PI.

Jan 2008 - Dec 2009. No cost extension to Dec. 2010.

#### INVITED TALKS—CONFERENCES

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1. International Society for Plant Molecular Biology, Speaker and Session Chair (Oct 2022)
2. Conference of the International Society of Mechanobiology, Sydney (Oct 2022)
3. University of Minnesota Developmental Biology Symposium, Keynote Address (Oct 2022)
4. Stupka Symposium, Keynote Speaker, Iowa State (April 2022)
5. From Cellular Dynamics to Morphogenesis II Webinar Series, Invited Speaker (Nov 2021)
6. Philosophy of Scientific Experimentation, Keynote Speaker (Sept 2021)
7. Finding Your Inner Modeler Workshop, Project Presentation (Aug 2021)
8. UC Riverside Graduate Student Symposium, Keynote Speaker (June 2021)
9. Comparative Morphogenesis between Plants and Animals: The Role of Mechanical Signals, Fondation des Treilles, France (Feb 2020)
10. Mechanobiology Day Keynote Speaker, UC Irvine (Oct 2019)
11. International Workshop on Plant Membrane Biology, Glasgow (July 2019)
12. ASPB Midwest Keynote Speaker (March 2019)
13. Force-Gated Channels, Berlin (Oct 2018)
14. HHMI Annual Meeting, Chevy Chase, MD (Sept 2018)
15. Plant Biology 2018, CSPB President’s Symposium, Montreal, Canada (July 2018)
16. International Congress of Arabidopsis Research, Turku, Finland (June 2018)
17. Zurich-Basel Plant Science Symposium (Nov 2017)
18. 2nd Workshop on Plant Development and Drought Stress, Asilomar, CA (Nov 2017)
19. FASEB Mechanisms in Plant Development, Vermont (Aug 2017)

20. Biophysical Society, New Orleans (Feb 2017)
21. WUSTL Mechanobiology Training Grant Retreat Keynote Speaker (June 2017)
22. ASPB “Reproductive Biology” Minisymposium, Austin, TX (July 2016)
23. NorPlant Biology 2016, Trondheim, Norway (June 2016)
24. HHMI Faculty Scholars Meeting, Chevy Chase, MD (Nov 2016)
25. ASCB, Lightning Talk in Motility and Cytoskeleton of Microbes Minisymposium (Dec 2015)
26. Gordon Research Conference on Organellar Channels & Transporters, Waltham, MA (June 2015)
27. Janelia Conference on Force-Gated Ion Channels, Ashburn, VA (March, 2015)
28. Northwest Regional Developmental Biology Meeting, Friday Harbor, WA (March 2014)
29. Plant Protein Phosphorylation Symposium, Columbia, MO (May 2014)
30. Pollen Research Coordination Network Meeting, Charlotte, NC (May 2014)
31. Gordon and Betty Moore Imaging Conference, Sausalito, CA (Dec 2014)
32. International Congress of Arabidopsis Research, Vancouver, BC (July 2014)
33. Biophysical Society Annual Meeting, San Francisco, CA (Feb 2014)
34. American Society for Space and Gravitational Research Meeting, Orlando FL (Nov 2013)
35. Midstates Consortium for Math and Science Meeting Keynote Speaker, St. Louis, MO (Nov 2013)
36. Midwest Society for Developmental Biology, St. Louis, MO (September 2013)
37. ASPB “Mechanosensation” Minisymposium, Providence, RI (July 2013)
38. Donald Danforth Annual Retreat Keynote Speaker (May 2012)
39. Plant Biomechanics Conference, Auvergne, France (August 2012)
40. Gordon Conference on Mitochondria and Chloroplasts, Smithfield, RI (July 2012)
41. Southern Section ASPB Keynote Address, Myrtle Beach, SC (March 2012)
42. Gordon Conference on Osmotic Regulation and Mechanotransduction (July 2009)
43. Plant Stress Symposium, Academia Sinica, Taipei, Taiwan (March 2009)
44. Gordon Conference on Mitochondria and Chloroplasts, Biddeford, ME (August 2008)
45. Gordon Conference on Yeast and Plant Cytoskeleton, Il Ciocco, Italy (August 2008)
46. Gordon Conference on Mechanotransduction, Biddeford, ME (July 2007)
47. Gordon Conference on Mechanotransduction. Biddeford, ME (June 2005)

#### INVITED SCIENTIFIC TALKS—DEPARTMENTAL SEMINARS

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1. Leibniz Institute of Plant Biochemistry (Jan 2022)
2. WUSTL Department of Genetics (Dec 2021)
3. University of California, San Francisco Biochemistry Department (November 2021)
4. University of Michigan MCDB Department (November 2021)
5. Gregor Mendel Research Institute (May 2021)
6. Oxford, Department of Plant Biology (March 2021)
7. John Innes Center (March 2021)
8. WUSTL Center for the Investigation of Membrane Excitability Diseases Seminar (Oct 2020)
9. Dept. Plant and Microbial Biology, University of Zurich, Student-Invited Speaker (Oct 2020)
10. WUSTL Biochemistry Department, St. Louis (Sept 2020)
11. Plantae Presents Virtual Seminar Series (May 2020)
12. Amherst College (Nov 2019)
13. Department of Molecular Genetics, UCLA (Oct 2019)
14. Department of Molecular Genetics, The Ohio State University (Oct 2019)
15. Virginia Tech Life Sciences Seminar (April 2019)
16. Yale University (Nov 2018)
17. Salk Institute (Nov 2018)
18. Center for Plant Cell Biology, UC Riverside (May 2018)
19. Stanford Frontiers in Quantitative Biology Seminar Series (April 2018)
20. North Carolina Biotechnology Center Seminar Series (Feb 2018)
21. Max Planck Plant Physiology, Golm (Dec 2017)
22. Copenhagen Plant Science Center Lecture, University of Copenhagen, Denmark (June 2017)
23. School of Biological Science, Washington State University (April 2017)

24. Joint Seminars in Molecular Biology, UC Davis (March 2017)
25. University of Oxford, Oxford England (June, 2016)
26. Sainsbury Labs, Cambridge University, Cambridge, England (May 2016)
27. University of Western Australia, Plant Energy Biology Centre, Perth, Australia (Feb 2016)
28. University of Adelaide, Plant Research Lab, Australia (Feb 2016)
29. Department of Plant and Microbial Biology, UC Berkeley (Oct 2016)
30. Department of Molecular Biosciences, University of Texas at Austin (Sept 2016)
31. Donald Danforth Plant Sciences, Saint Louis, MO (August 2016)
32. Biotechnology/Life Sciences Seminar Series, University of Nebraska, Lincoln, NE (Nov 2015)
33. Woods Hole Physiology Course, Marine Biological Labs (July 2015)
34. Section of Plant Biology, Cornell University (May 2015)
35. Plant Mol & Physiol Biol Seminar Series, University of Illinois Champaign-Urbana (April 2015)
36. Molecular Biology Institute, UCLA (Feb 2015)
37. Department of Biology, University of Washington (Jan 2015)
38. Department of Biology, MCSB Program, University of Massachusetts, Amherst, MA (Nov 2014)
39. Department of Biology, Penn State University, State College, PA (Oct 2014)
40. Physiology Course, Marine Biological Labs, Woods Hole, MA (June 2014)
41. Basic Sciences Division, Fred Hutchinson Cancer Research Center, Seattle, WA (June 2014)
42. Carnegie Institution for Science, Palo Alto, CA (April 2014)
43. Department of Biology, Indiana University, Bloomington, IN (Dec 2013)
44. CBMG Program, University of Maryland, College Park, MD (Oct 2013)
45. Vanzant Biochemistry and Cell Biology Seminar Series, Rice University, TX (May 2012)
46. Plant Molecular and Cell Biology, University of Florida, FL (February 2012)
47. Interdisciplinary Plant Biology Symposium, U of Missouri (May 2012)
48. Department of Biochemistry, University of Kansas (April 2011)
49. Department of Plant Biology/PRL, Michigan State University (January 2011)
50. Department of Microbiology, WUSTL School of Medicine, St. Louis, MO (Sept 2011)
51. Department of Biology, Southern Illinois University Edwardsville (October 2010)
52. University of Wisconsin Botany Department (informal seminar), Madison (May 2009)
53. Truman State University, Kirksville, MO (April 2009)
54. Donald Danforth Plant Science Center, St. Louis, MO (December 2008)
55. Interdisciplinary Plant Group, University of Missouri, Columbia, MO (Nov 2008)
56. Department of Biology, St. Louis University, St. Louis, MO (April 2008)
57. Department of Biology, University of Missouri, St. Louis, MO (March 2008)
58. Center for Plant Cell Biology, UC Riverside, CA (July 2007)
59. Department of Genetics, WUSTL School of Medicine, St. Louis, MO (Nov 2007)
60. Department of Biological Sciences, Columbia University, NY (December 2006)
61. Seattle Area Model Plant Labs, Seattle, WA (August 2006)

#### PROFILES in the POPULAR PRESS

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- “Mechanics of Perceiving Pressure are Different in Animals and Plants, Reveals Study”, *Genetic Engineering and Biology News*, August 2, 2021
- Depth of perception: in plant cells, a conserved mechanism for perceiving force resides in unexpected location”. By Talia Ogliore *The Source*, July 29, 2021
- “An ion channel senses cell swelling and helps cells to choose a response” by Marta *Wegorzewska WUSTL The Source* June 11, 2020
- “How scientists are fighting against gender bias in conference speaker lineups.” By Katie Langin. *Science Careers* February 11, 2019
- “Listen up: Science podcasts are on the rise—and researchers are producing many of them.” by Roberta Kwok. *Nature Careers* 565:388-390. January 15, 2019.
- “2 St. Louis plant scientists use podcast to dig deep into the struggles of research” by Eli Chen. *STL Public Radio* January, 2018
- “Listening In” by Diana Lutz. *WUSTL The Source*. August 10, 2017

- “Hydropowered Pollen” by Karen Zusi, Editor’s Choice, *The Scientist*, February 1, 2016
- “Sharing Science: Mechanosensitive Channel MSL8 Regulates Osmotic Forces During Pollen Hydration and Germination” by Stacey Kelley and Reyda González-Nieves, *NSF MCB Blog*, Dec 18, 2015
- “Scientists discover ancient safety valve linking pollen to bacteria” by Eric Hamilton and Diana Lutz. *WUSTL Record*, October 28, 2015
- “Question together: What are you Curious About?” A promotional video for Merck KGaA featuring commentary by Liz Haswell. October 27, 2016
- “Mechanically gated channels play a role in plant sex,” Alexandra Taylor. *Wild Types*, a blog for ASBMB Today October 22, 2015
- “Leaf Me Alone! Plants Are More Sensitive Than We Realize,” Jeannette Cooperman. *STL Magazine*, April, 2012
- “Como hacen las plantas para “sentir,” Alejandra Martin. *BBC Mundo*, October 31, 2011
- “Plants feel the force,” Diana Lutz. *WUSTL Record*, October 21, 2011
- “Researchers identify proteins making up mechanosensitive ion channels,” Julia Strait. *WUSTL Record* June 3, 2008

## TEACHING

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### Coursemaster

2020-2021

Bio3041 Plant Biology and Genetic Engineering  
Bio5723 Seminar in Plant and Microbial Biology

2019-2020

Bio3041 Plant Biology and Genetic Engineering

2018-2019

Bio3041 Plant Biology and Genetic Engineering  
Bio5702 Current Approaches in Plant Research

2017-2018

Bio3041 Plant Biology and Genetic Engineering

2016-2017

Bio3041 Plant Biology and Genetic Engineering

2015-2016

*(sabbatical)*

2014-2015

Bio3041 Plant Biology and Genetic Engineering

2013-2014

Bio3041 Plant Biology and Genetic Engineering  
Bio4025 Current Approaches in Plant and Microbial Research

2012-2013

Bio4028 Seed to Senescence: The Genetics, Cell Biology, and Development of Plants  
Bio3041 Plant Biology and Genetic Engineering

2011-2012

Bio493 Original Biological Research and Methods  
Bio3041 Plant Biology and Genetic Engineering

2010-2011

Bio4028 Seed to Senescence: The Genetics, Cell Biology, and Development of Plants  
Bio572 Plant Biology Journal Club

2009-2010

Bio4028 Seed to Senescence: The Genetics, Cell Biology, and Development of Plants  
*(maternity leave)*

2008-2009

Bio4028 Seed to Senescence: The Genetics, Cell Biology, and Development of Plants  
Bio572 Plant Biology Journal Club

**Guest Lecturer/Project Leader**

SP2008, SP09, SP11 Bio5491 Advanced Genetics  
 SP2008, SP12, SP13 Bio572 Plant Biology Journal Club  
 FL2011 Be262 Physical and Synthetic Biology Bootcamp (at Caltech)  
 FL2014 Bio1810 Freshman Seminar in Imaging Sciences  
 Summers 2014, 2015 MBL Physiology Course, Woods Hole  
 Summer 2019 Cold Spring Harbor Frontiers and Techniques in Plant Science  
 Summer 2020 Center for Engineering Mechanobiology Summer Bootcamp  
 FL2019, 2020, 2021 CAMB711/BE711 Integrative Plant and Animal Mechanobiology

**Training**

2021 CTL200 “Designing an Adaptable Course”  
 2019 CIRCLE Teaching Academy Seminar Attendee “Promoting Motivation for Underrepresented Groups in Undergraduate STEM Classes.”  
 2019 CIRCLE Teaching Academy Seminar Attendee “Strategies to Foster an Inclusive Environment in the Classroom.”  
 2018 Transformational Initiative for Education in STEM Attendee (TIES, lunch event)  
 2017 Inclusion and Diversity to Engage All, WUSTL Faculty Institute on Teaching, Attendee

**TRAINEES**

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**Graduate Students, Current**

Kari Miller, *Plant and Microbial Biology* (2018-), NSF Graduate Research Fellow, Donald Danforth Fellowship in Plant Sciences  
 Jennette Codjoe (née Shoots), *Plant and Microbial Biology* (2017-), NSF Graduate Research Fellow, Donald Danforth Fellowship in Plant Sciences

**Graduate Students, Past**

Angela Schlegel, *Plant and Microbial Biology* (2014-2020), Olin Women’s Fellow, Donald Danforth Fellowship in Plant Sciences. “Measuring and Manipulating Tension-Dependent Behavior of Mechanosensitive Ion Channels.” Current position = Scientific Technical Editor, AlphaGroup Medical Communications.  
 Eric Hamilton, *Plant Biology* (2013-2017), Monsanto Excellence Fund Graduate Fellow, AAAS Mass Media Fellow. “Strategies for Success: Mechanosensitive Channel MSL8 Regulates Mechanical Challenges during Pollen Rehydration and Growth” Current position = Science Writer, University of Wisconsin, Madison  
 Margaret Wilson, *Plant Biology* (2009-2013). “Division Ring Placement, Osmotic Stress Response, and Plant Development: The Many Roles of Membrane Tension in the Life of a Plastid.” Current position = Project Manager, Donald Danforth Plant Science Center  
 Silvano Ciani, *Plant Biology* (2008-2011, Masters). Current position = Corporate Research and Innovation Lead, Dr. Schär, Trieste, Italy

**Rotation Students**

Cheyenne Anderson, *Plant and Microbial Biology* (Fall 2021) • Olivia Gomez, *Plant and Microbial Biology* (Spring 2021) • Will McHargue, *Plant and Microbial Biology* (Winter 2020) • Kristen Edgeworth, *Plant and Microbial Biology* (Fall 2020) • Natasha Bilkey, *Plant and Microbial Biology* (Fall 2017) • Maria Sorkin, *Plant and Microbial Biology* (Fall 2016) • Elizabeth Frick, *Plant Biology* (Spring 2013) • Ashley Muehler, *Plant Biology* (Spring 2012) • Jeremy King, *Cell Biology* (Summer 2009) • Brian San Francisco, *Plant Biology* (Fall 2008) • Scott Higdon, *Developmental Biology* (Summer 2008) • Caitlin Ramsey, *Plant Biology* (Spring 2008) • Rachel Schwoppe, *Molecular Genetics and Genomics* (Spring 2008)

**Graduate Student Thesis Committees**

Jacquelin García (2021-)\*, *Biochemistry* • Stefan Mielke (2021)\*\*, Leibniz Institute of Plant Biochemistry • Taylor Paret (2021-), *Environmental Science, University of Toledo* • Chia-Yun Lee (2020-) *Plant and Microbial Biology* • Sarah Pardi\* (2020-) *Plant and Microbial Biology* • Erin Mattoon

(2019-) *Plant and Microbial Biology* • Natasha Bilkey\* (2019-) *Plant and Microbial Biology* • Alexandre Sicard (2018-) *Max Planck Institute of Molecular Plant Physiology* • Maria Sorkin\* (2018-), *Plant and Microbial Biology* • Taylor Paret (2018-2019), *Environmental Science Masters Program, University of Toledo* • Sarah Rommelfanger\* (2017-), *Plant and Microbial Biology* • Jonah Scher-Zagier (2016-2019), *Physics* • Elizabeth Frick (2014-2017), *Plant and Microbial Biology* • Michelle Harris\*\* (2014) *Chemistry* • Henry Priest (2013-2016), *Plant and Microbial Biology* • Cheryl Immethun (2013-2016) *Chemical Engineering* • Matthew Kilgore (2012-2015), *Plant Biology* • Hannah Malcolm\*\* (2012) *Chemistry* • Heidi Arjes (2011-2014) *Microbiology and Microbial Pathogenesis* • Chuanmei Chu (2010-2014) *Plant Biology* • Brian San Francisco\* (2010-2013) *Plant Biology* • Agnes Demianski (2009-2011), *Plant Biology* • Bisco Hill (2009-2013), *Microbiology and Microbial Pathogenesis* • Andrew Mutka (2009-2013), *Plant Biology* • Matthew Rea (2010-2013), *Biology, SLU* • Wei-Tien (2009)\*\*, *U College Masters Program* • Sebastian Lourido (2009-12) *Molecular Microbiology and Microbial Pathogenesis* • Amy Szumlanski (2008-09) *Plant Biology* • Ian Street (2007) *Plant Biology*\*\*  
\*Chair, \*\*Defense only

### Graduate Student Qualifying Exam Committees

Cooper Hostetler (2021) • Michelle Cho (2020) • Eric Connors (2019) • Ryan Emmenecker (2019) • Patricia Walker (2018) • Maria Sorkin (2018) • Sarah Rommelfanger (2017) • Po Cheng (2015) • Tara Enders (2013) • Abby Mapes (2012), *Microbiology* • David Korasick (2012) • Matthew Kilgore (2012) • Jeremy King (2011) • Matthew Rea (2010), *Biology, SLU* • Wan Shi (2009) • Ashley Galant (2008)

### Postdoctoral Scientists, Current

Dr. Joshua Coomey (2020-present)  
Dr. Ivan Radin (2016-present)

### Postdoctoral Scientists, Past

Dr Yanbing Wang (2016-2020)  
Postdoctoral Fellow, University of Georgia  
Dr. Debarati Basu (2015-2020)  
Postdoctoral Fellow, University of Louisiana  
Dr. Yizhou Wang (2017)  
Institute of Crop Science, Zhejiang University, China  
Dr. Eric Schultz (2016-2017)  
Research Scientist, DuPont Pioneer  
Dr. Grigory Maksaev (2010-2017)  
Instructor in Cell Biology and Physiology, Washington University in St. Louis  
Dr. Wendy Huang-Verslues (2014-2015)  
Assistant Professor, Academia Sinica, Taiwan  
Dr. Margaret Wilson (2014-2016)  
Project Manager, Donald Danforth Plant Science Center  
Dr. Kira Veley (2010-2015)  
Research Scientist, Donald Danforth Plant Science Center  
Dr. Ellen Martin-Tryon (2008-2009)  
Covercross, St Louis

### Technicians and Salaried Employees

Ryan Richardson (2015-present) • Matthew Mixdorf (2014-2017) • Emma January (2013-2015) • Gregory Jensen (2007-2010, 2012-2015) • Kelsey Kropp (2013-2014) • Katherine Shortt (2011-2012) • Sarah Marshburn (2011) • Anupama Vijayaraghavan (2009-2010) • Madalyn Fleisler (2007-2008)

### Undergraduates

**Research:** Ivy Moore (FL21-present) • Julia Behlmann, *CEMB REU* (Summer 2021) • Theodore Fujimoto (SP20-Summer 2021) • Sophie Tomatz (FL19-SP21) • Aidan Flynn, *CEMB REU* (FL18-SP21) • Ethan Weiner (SP18-SP20) • Pranav Maddula, *CEMB REU* (Summer 018-FL2018) • Matt Geer

(Summer 2017-FL17) • Simran Ohri (Summer 2017-FL17) • Sadie VanHorn, *Amgen Scholar* (Summer 2017) • Srishti Kapur (SP17) • Liam Joyce (Summer 2016) • Josephine Lee, *ASPB SURF* (SP14-FL15, FL16) • Sarah Kloepper, *WUSTL SURF* (SP13-14) • Meera Basu, *WUSTL SURF* (Summer 2012, FL12-SP14) • Hyunu Ray Kim (SP12-Summer 2012) • Andrew Katims, *Stalker Prize Winner* (FL11-Summer 2012) • Cara Clure (FL07-SP10) • Kelly Meuthing, *Summer Scholar* (2010) • Dylan Cockson (FL09) • Vivien Goh, *Summer Scholar* (2009)

### Undergraduate Theses

Aidan Flynn “Identification and functionality of intrinsic disorder in the *Arabidopsis thaliana* mechanosensitive ion channel MSL10” Spring 2021  
 Sophia Tomatz “Investigating the cell death inducing properties and protein-protein interactions of *Arabidopsis* mechanosensitive ion channel MSL8” Spring 2021  
 Ethan Weiner “The Subcellular Localization of Piezo-like Proteins and their Role in Cytoplasmic Calcium Signaling in *Physcomitrium patens*.” Spring 2020  
 Josephine Lee “Organelle-organelle communication in plant growth and development.” Fall 2016  
 Sarah Kloepper “A Study in Green: Phosphorylation-dependent Cell Death and the N-terminus of MSL10.” Spring 2014  
 Meera Basu “Exploring the contribution of plastid stress to plant cell osmoregulation and identifying the subcellular localization of MSL2 N-terminal splice variants.” Spring 2014  
 Cara Clure “Mechanosensitive channels interact with starch metabolism to control the osmotic sensitivity of plastids in *Arabidopsis thaliana*.” Spring 2010

**Lab Assistants:** Eden Gallup (FL21-) • Nick Ge (FL21-) • Rowan Behnke (FL18-SP21) • Daniel McLean (FL16-SP18) • Rachel Eddy (FL15-SP16) • Samantha Embrick (FL13-SP15) • Brandon Eng (SP13) • Paul Micevych (FL12) • Meghan Lam (SP12) • David Xiong (FL10) • Michael Benefiel (FL08-SP11) • Chan Lee (SP08)

### Visiting Scientists

Paul Verslues, Freiburg Professor (Fall 2014/Spring 2015) • Darron Luesse, Sabbatical (Summer/Fall 2014) • Kevin Hall, St. Louis high school teacher (Summer 2010) • Stephanie Johnson, Ph.D. candidate at California Institute of Technology (SP08)

### LEADERSHIP

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2021-	Core Network Participant, Plant Cell Atlas
2020-	Member, Finding Your Inner Modeler NSF RCN Steering Committee
2019-20	Member, AAAS Committee on Council Affairs
2019-	Steering Committee, The Arabidopsis Information Network
2019-20	Member, Executive Committee, NSF Center for Engineering Mechanobiology
2018-	Member, Plant Science Research Network Steering Committee
2018-	Co-Director, Multinational Arabidopsis Steering Committee (MASC)
2018-20	Director of Research, NSF Center for Engineering Mechanobiology
2018-21	AAAS Council Delegate, Biological Sciences
2017-	Member, NSF Center for Engineering Mechanobiology
2015-20	Member, North American Arabidopsis Steering Committee (NAASC)
2016-17	Member, Plantae Steering Committee

### DIVERSITY, EQUITY & INCLUSION and MENTORING

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2021	Panelist “Running a Research Group in Next Generation” workshop International Congress of Arabidopsis Research
2020	Career Talk, University of Zurich, Student-invited presentation
2019-	External mentor, WUSTL Physics junior faculty
2019-	Mentor, Científico Latino Graduate School Mentorship Initiative
2019	Member, NAASC Task Force on Diversity and Inclusion

2019-2018	Co-creator of #DiversifyPlantSci database, <a href="https://tinyurl.com/y6s4znoq">https://tinyurl.com/y6s4znoq</a>
2018-2019	Co-organizer, NSF RCN Workshop on Broadening Impacts in Plant Science
2014, 2018	Lab visit host for WUSTL College Prep Program students
2017	URM Mentor, NSF RCN “Arabidopsis Research & Training for the Next Generation”
2017	Participant, Witnessing Whiteness, 10-session workshop on white racial identity
2017	Participant, Inclusion and Diversity to Engage All, WUSTL Faculty Institute on Teaching
2017	Contribution to “How Does She Do It?” series on Plantae website:
2016	Guest Blogger, Plant Scientist “Peer Mentoring & Why You Should, Too”
2016	Panelist, NorPlantBio 2016 Career Discussion
2015	Participant, Women Faculty Leadership Institute, WUSTL
2012	WUSTL Mentor Connections Participant
2011-2014	DBBS Women Graduate Student Mentor
2011	DBBS Graduate Student Seminar on Professional Development
2010	Presenter, American Society of Plant Biologists Career Workshop “Getting the Most out of Graduate School”
2009	Panelist, DBBS Panel on Graduate Student Rotations
2009	Speaker, Career Development Series, Danforth Society of Fellows
2007	Laboratory Leadership Workshop Attendee, American Society of Plant Biologists

## SCIENCE COMMUNICATION

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Twitter handle @ehaswell (~4,000 followers)

Co-host of The Taproot Podcast, <https://plantae.org/podcasts/the-taproot/> (>81,000 downloads)

*Gold Excel Award Winner from the Association Media and Publishing, July 2018. Featured in Nature Careers, and on STL Public Radio.*

2021	Panelist, Social Media and Science Communication Workshop, International Congress of Arabidopsis Research
2021	Talk on modern science communication, Wageningen Postdoc Council
2020	Talk on podcasting, Science Says, UC Davis
2020	Panelist, CEMB Workshop “Advancing Your Career with Twitter”
2019	Invited Panelist, WUSTL Postdoc Symposium (spoke on podcasting)
2018	Presenter, Minisymposium “Seeds of Change” on novel outreach approaches
2018	Co-organizer, NSF RCN Workshop on Broadening Impacts in Plant Science
2018	Co-leader, “Communicating Science in the Age of Fake News” Workshop, International Congress of Arabidopsis Research
2016	Participant, Communicating Science 2016, Alan Alda Center
2014-15	Mentor, WUSTL Graduate Research Fellowship Program Writing Workshop
2015	Created a whiteboard video on our research <a href="https://youtu.be/u1e69I82xTo">https://youtu.be/u1e69I82xTo</a>
2015	Featured interview on #QuestionTogether video by Merck KGaA
2015	Panelist, WUSTL iGEM Discussion “Genetic Engineering: Shades of Grey”
2013	Panelist, NSF CAREER Award Discussion, WUSTL School of Engineering

## NATIONAL AND INTERNATIONAL SERVICE

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### Grant Panelist/Reviewer

2021	Canada Research Coordinating Committee
2008-	National Science Foundation, 20 grants to date
2010-	National Science Foundation MCB Review Panelist, 5 panels to date
2013	European Research Council
2013	Research Grant Council of Taiwan
2013, 2015	WUSTL I-CARES
2013	European Research Area—Coordinating Action in Plant Sciences
2011, 2012	University of Missouri Research Board

**Scientific Meeting Organizer/Session Chair/Workshop Organizer**

- 2020 Co-chair, Minisymposium at ASCB/EMBO Annual Meeting  
 2020, 2021 Organizing Committee, Int'l Conference on Arabidopsis Research (*postponed due to COVID-19 outbreak*)  
 2019 Organizer, Second Annual CEMB Mechanobiology Symposium  
 2019 Session Organizer, Society for Engineering Sciences Meeting  
 2019 Plant Summit 2019 Organizing Committee  
 2018 Organizing Committee, Inaugural CEMB Mechanobiology Symposium  
 2018 Signal Transduction Session Chair, Int'l Conference on Arabidopsis Research  
 2017-2019 NSF MCB Workshop "Finding Your Inner Modeler"  
 2017 Organizing Committee, Int'l Conference on Arabidopsis Research  
 2016 Minisymposium Chair "Reproductive Biology", Plant Biology  
 2014 Cell Biology Session Chair, International Conference on Arabidopsis Research  
 2013 Minisymposium Organizer and Chair "Mechanotransduction", Plant Biology  
 2013 Organizing Committee, Midwest Society for Developmental Biology  
 2011 Minisymposium Chair "Organelle Biology", Plant Biology  
 2006 Int'l Conference on Arabidopsis Research Workshop "Mechanotransduction in Arabidopsis"

**Editorial/Journal Advisory Boards**

- 2020- Deputy Editor, Science Advances  
 2019- Senior Editor, Plant Cell  
 2021 Co-guest editor, Journal of General Physiology, Mechanobiology special issue  
 2021- Advisory Board, Trends in Plant Science  
 2020 Guest Editor, PNAS  
 2020 Co-editor, Methods in Cell Biology: Plant Cell Biology Edition 160  
 2017-2019 Reviewing Editor, The Plant Cell  
 2017 Guest Editor, Current Opinion in Plant Biology, Cell Biology Section  
 2015-2016 Guest Editor, The Plant Cell

**Ad-Hoc Journal Reviewer**

2007-present: Approximately two manuscripts per month in: Science • Nature Communications • Current Biology • The Plant Cell • PNAS • PLoS Genetics • Biophysical Journal • Molecular Plant • Scientific Reports • Science Signaling • Plant Physiology • Biochemical Journal • Journal of Bacteriology • Plant Journal • Molecular Biology of the Cell • Journal of Cell Science • Frontiers in Plant Science • Photochemistry and Photobiology • Trends in Cell Biology • Journal of Experimental Botany • PLoS ONE • Plant Biology • New Phytologist • Oecologia • Journal of Integrative Plant Biology • American Journal of Botany

**Invited Workshop Panelist**

- 2012 Department of Energy Workshop "Cell Cycle and Rhythms"  
 2009 Department of Energy Workshop "New Frontiers in Characterizing Biological Systems"

**DEPARTMENT and UNIVERSITY SERVICE**

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**Formal Committees**

- 2021- Chemistry Department Chair Search Committee  
 2021- Advisory Committee on Tenure, Promotion and Personnel  
 2021 Provost's Strategic Planning Working Group for the Research Enterprise  
 2020-21 Cell and Molecular Biology Faculty Search Committee  
 2019- Plant and Microbial Biology Graduate Program Admissions Chair  
 2019- Chair, Biology Communications Committee  
 2018-21 Co-Chair, WUSTL New Investigator Awards Review Committee  
 2018 - Chair, Stalker Award Committee

2015- Plant and Microbial Biology Graduate Program Steering Committee  
2017-2020 Faculty Advisory Committee to the Biology Chair  
2018-2019 WUSTL Standing Committee on Work/Life Balance  
2015-2019 Executive Committee, Mechanobiology Graduate Training Grant  
2018 WUSTL Affirmative Action Monitoring Committee  
2017-18 WUSTL Student Conduct Board  
2016-2017 Biophysics Faculty Search Committee, Physics Department  
2016-2017 Vice-Dean for DBBS Search Committee, DBBS  
2013 WUSTL Library Deaccessioning Task Force  
2012-13 Prokaryotic Biology Search Committee  
2010-11 Plant Biology Faculty Search Committee  
2007-08 Biochemistry Faculty Search Committee, Chemistry Department  
2007-08 Plant Biology Graduate Program Admissions Committee

**Informal Contributions**

2020 Varner Lecture Planning Committee  
2017- Biology Department Seminar Series Overhaul & Organization  
2009- Biology Program Undergraduate Advisor  
2014 Mentor, DBBS Graduate Fellowship Writing Workshop  
2014 Arts and Sciences Student Orientation Participant  
2013 Plant and Microbial Biosciences Planning  
2013 Plant and Microbial Biosciences Website Design  
2013 Plant Biology Graduate Program Advising  
2013 WUSTL HHMI Travel Award Poster Judge  
2012 Update Plant Program Brochure  
2011 Biology Major Assessment, Interviewer  
2010 Biology Curriculum Implementation  
2010 HHMI Teaching Advisory Committee  
2009 Graduate Students Ethics Course, Facilitator  
2009-2013 Plant Biology Program Retreat, Organizer  
2009 Biology Department Website Overhaul