

Gary N. Drews

ADDRESS

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PROFESSIONAL EXPERIENCE

Assistant Professor, 1993 - 1999. Department of Biology, University of Utah, Salt Lake City, Utah.

Associate Professor, 1999 - 2004. Department of Biology, University of Utah, Salt Lake City, Utah.

Professor, 2004 – present. Department of Biology, University of Utah, Salt Lake City, Utah.

EDUCATION

Undergraduate studies, 1973 - 1977. Department of Biochemistry, University of Wisconsin, Madison.

Graduate studies, 1983 - 1989. Department of Biology, University of California, Los Angeles. In the laboratory of Robert Goldberg. Research topic: *Spatial regulation of gene expression during petal development*.

Postdoctoral studies, 1989 - 1993. Division of Biology, California Institute of Technology, Pasadena, California. In the laboratory of Elliot Meyerowitz. Research topic: *Regulation of homeotic gene expression during flower development in Arabidopsis*.

AWARDS AND FELLOWSHIPS

Shell Foundation Predoctoral Training Grant, 1985 - 1986.

McKnight Foundation Predoctoral Training Grant, 1986 - 1989.

Scherbaum Award for Distinguished Graduate Research, Dept. Biology, UCLA; 1989.

NIH Postdoctoral Fellowship, 1989 - 1992.

CSIRO McMaster Fellowship, 1996.

Professor of the Year award by the Biology Student Advisory Committee, 2001.

Elected to the 2010 class of Fellows of the AAAS (American Association for the Advancement of Science).

GRANT SUPPORT

Current

National Science Foundation, 2015 – 2020. *Gene regulatory networks in the maize endosperm*. Total costs: \$7,351,648. PI, Ramin Yadegari; GND is a co-PI.

Past

USDA NRI Competitive Grant, 1993 - 1995. *Molecular analysis of floral meristem organization*.

National Science Foundation, 1996 - 1999. *Genetic analysis of female gametophyte development and function*.

University of Utah Seed Grant, 1999 - 2000. *Analysis of proximal-distal patterning during flower development*.

University of Utah Technology Innovation Grant, 2000 - 2001. *Homologous recombination in plants*.

University of Utah Technology Commercialization Project Grant, 2001 - 2002. *Gene targeting in plants*.

National Science Foundation, 2001 - 2004, *Gene targeting in plants*.

Ceres, Inc., 1998 - 2004, *Identification of genes required during female gametophyte development*.

University of Utah Seed Grant, 2004 - 2005, *Identification and analysis of ovule-expressed genes in Arabidopsis*.

Department of Energy (Energy Biosciences), 2004 – 2007. *Cell death during female gametophyte development*.

National Science Foundation, 2006 – 2009. *Synergid cell development and function in Arabidopsis*.

National Science Foundation, 2005 – 2010. *Arabidopsis 2010: Regulatory networks controlling female gametophyte development*. PI, Ramin Yadegari; GND was co-PI.

Dow AgroSciences, LLC, 2008-2010. *Zinc-finger nucleases in Arabidopsis*.

University of Utah Seed Grant, 2009 - 2010, *Identification and analysis of MADS-box genes functioning in the endosperm in Arabidopsis*.

National Science Foundation, 2009 – 2014. *TRMS: Regulation of Early Endosperm Development in Maize*. Total costs: \$4,963,480. PI, Ramin Yadegari; GND was a co-PI.

Grants and Awards Received by Lab Members

Diana Lee, Canadian National Sciences and Engineering Research Council (NSERC) Postdoctoral Fellowship, 1997 - 1999.

Cory Christensen, NIH Developmental Biology Predoctoral Training Grant, 1998 - 2001.

Cory Christensen, Riser Award for outstanding graduate research in the Department of Biology, 2002.

Jayson Punwani, NIH Developmental Biology Predoctoral Training Grant, 2002 - 2005.

Jayson Punwani, Riser Award for outstanding graduate research in the Department of Biology, 2007.

Michael Portereiko, USDA NRI Competitive Grant, 2004-2006. *A genetic and molecular analysis of nuclear fusion in Arabidopsis thaliana*. Total costs: \$110,000.

Joshua Steffen, NIH Developmental Biology Predoctoral Training Grant, 2006 - 2009.

Joshua Steffen, Riser Award for outstanding graduate research in the Department of Biology, 2007.

TEACHING

1993-1994: Plant Biology (Biology 243), Molecular Biology Seminar
1994-1995: Plant Biology (Biology 243), Developmental Genetics (Biology 538)
1995-1996: Plant Biology (Biology 243), Developmental Genetics (Biology 538)
1996-1997: Plant Biology (Biology 243)
1997-1998: Plant Biology (Biology 243), Developmental Biology (Biology 538)
1998-1999: Introduction to Plant Biology (Biology 3340)
1999-2000: Sabbatical leave
2000-2001: Developmental Biology Lecture (Biology 3230) and Lab (Biology 3235)
2001-2002: Developmental Biology Lecture (Biology 3230) and Lab (Biology 3235)
2002-2003: Developmental Biology Lecture (Biology 3230) and Lab (Biology 3235)
2003-2004: Developmental Biology Lecture (Biology 3230) and Lab (Biology 3235)
2004-2005: Developmental Biology Lecture (Biology 3230) and Lab (Biology 3235)
2005-2006: Developmental Biology Lecture (Biology 3230) and Lab (Biology 3235)
2006-2007: Sabbatical leave
2007-2008: Developmental Biology Lecture (Biology 3230) and Lab (Biology 3235)
2008-2009: Principles of Cell Biology (Biology 2020)
2009-2010: Principles of Cell Biology (Biology 2020)
2010-2011: Principles of Cell Biology (Biology 2020)
2011-2012: Principles of Cell Biology (Biology 2020)
2012-2013: Principles of Cell Biology (Biology 2020)
2013-2014: Principles of Cell Biology (Biology 2020)
2014-2015: Principles of Cell Biology (Biology 2020)
2015-2016: Sabbatical leave
2016-2017: Introduction to Plant Biology (Biology 3340)
2017-2018: Introduction to Plant Biology (Biology 3340)
2018-2019: Introduction to Plant Biology (Biology 3340)
2019-2020: Introduction to Plant Biology (Biology 3340)
Fundamentals of Biology I (Biology 1610) with Dr. R. Dawson

STUDENT TRAINING

Postdoctoral Fellows

Qiuyun Chen, 1993 - 1996.
Diana Lee, 1997 - 1998.
Mike Deyholos, 2002.
Michael Portereiko, 2003 – 2006.
Il-Ho Kang, 2004 – 2007.
Jayson Punwani, 2007.
Huijian Zhang, 2009 – 2011.
David Rabiger, 2017-2018.

Graduate Students

Shanti Subramanian, M.S. 1996.
Cory Christensen, Ph.D. 2001 (received Riser Award, NIH Dev. Biol. Training Grant).
Chad Dever, Ph.D. 2002.
Denichiro Otsuga, Ph.D. 2003.
Linda Nikolova, M.S. 2007.
Ryushiro Kasahara, Ph.D. 2007.

Jayson Punwani, Ph.D. 2007 (received Riser Award, NIH Dev. Biology Training Grant).
Joshua Steffen, Ph.D. 2009 (received Riser Award, NIH Dev. Biology Training Grant).
David Rabiger, Ph.D. 2013.

Undergraduate Students

40 undergraduate students and two high school students have carried out research projects in my lab.

Visiting Scientists

Dr. Alan Rose, postdoctoral fellow, Boyce Thompson Institute, Cornell University, Fall 1994.

Dan Coury, graduate student, Department of Plant Biology, University of Arizona, Summer 1995.

Dr. Luis Perez-Grau, postdoctoral fellow, Department of Botany, University of California, Davis, Summer 2000.

UNIVERSITY SERVICE

2001-2002: Executive Committee
Faculty Search Committee, Molecular Biology
Curriculum Committee
Sieburth RPT Subcommittee
Kursar RPT Subcommittee

2002-2003: Executive Committee
Curriculum Committee
Teaching Assignments Committee (chair, molecular courses)
Faculty Search Committee, Molecular Biology (hired Markus Babst)
University Graduate Council

2003-2004: Executive Committee
Curriculum Committee
University Graduate Council
University Academic Evaluation and Standards Committee

2004-2005: Curriculum Committee
Teaching Assignments Committee (chair, molecular courses)
Carrier RPT Subcommittee
University Graduate Council
Developmental Biology Training Grant Committee

2005-2006: Curriculum Committee
Bohs RPT Subcommittee
Developmental Biology Training Grant Committee

2006-2007: Sabbatical leave

2007-2008: Communications Committee
Kursar RPT Subcommittee
Developmental Biology Training Grant Committee

2008-2009: Executive Committee
Communications Committee
Curriculum Committee
Sieburth RPT Subcommittee (chair)
Developmental Biology Training Grant Committee

2009-2010: Executive Committee
Curriculum Committee
Developmental Biology Training Grant Committee

2010-2011: Curriculum Committee (Chair)
College of Science RPT Advisory Committee
Developmental Biology Training Grant Committee

2011-2012: Curriculum Committee, teaching assignments
Clark RPT Subcommittee (chair)
College of Science RPT Advisory Committee
Developmental Biology Training Grant Committee

2012-2013: Curriculum Committee, teaching assignments
Computer Advisory Committee
College of Science RPT Advisory Committee (Chair)

2013-2014: Curriculum Committee, teaching assignments
Graduate Program Committee
College of Science RPT Advisory Committee

2014-2015: Executive Committee
Curriculum Committee, teaching assignments
Pataki RPT Subcommittee

2015-2016: Sabbatical leave

2016-2017: Curriculum Committee
Greenhouse Committee
Undergraduate Scholarship, Engagement, and Research Committee

2017-2018: RPT Selection Board
Curriculum Committee
Greenhouse Committee
Clark RPT Subcommittee (chair)
Faculty Search Committee, Molecular Structure

2018-2019: Dentinger RPT Subcommittee (chair)
Greenhouse Committee (chair)
Curriculum Committee
RPT Selection Board
Sieburth TFR Review Committee

2019-2020: Greenhouse Committee (chair)
Curriculum Committee
Anderegg RPT Subcommittee
Symposium Organizing Committee, Emerging Frontiers in Plant Biology
College of Science Curriculum Committee

PROFESSIONAL ACTIVITIES

Instructor at the Cold Spring Harbor *Arabidopsis* Molecular Genetics Course, July 1993, July 1994, July 1995, July 1997.

Advisory Panel member, USDA Plant Growth and Development Panel, 2001, 2002, 2004.

Consultant for Ceres, Inc., Malibu, CA., 1999 – 2004.

Reviewer for Plant Cell, Plant Journal, Sexual Plant Reproduction, Plant Molecular Biology, Genetics.

Reviewer for NSF, DOE, and USDA.

Member of the American Society of Plant Physiology and the American Association for the Advancement of Science.

Member of the Board of the International Association of Sexual Plant Reproduction Research, 2009-2014.

NSF Plant Genome Research Program (PGRP) Proposal Review Panel, 2012.

Member of the Organizing Committee, 24th International Conference on Sexual Plant Reproduction, March 2016.

PUBLICATIONS

- Walling, L., **Drews, G.N.**, and Goldberg, R.B. (1986) Transcriptional and post-transcriptional regulation of soybean seed protein mRNA levels. *Proc. Natl. Acad. Sci.* 83, 2123-2127.
- Nielsen, N.C., Dickinson, C.D., Cho, T.-J., Thanh V.H., Scallon, B.J., Fischer, R.B., Sims, T.L., **Drews, G.N.**, and Goldberg R.B. (1989) Characterization of the glycinin gene family in soybean. *Plant Cell* 1, 313-328.
- Drews, G.N.**, and Goldberg, R.B. (1989) Genetic control of flower development. *Trends in Genetics* 5, 256-261.
- Yanofsky, M.F., Ma, H., Bowman, J.L., **Drews, G.N.**, Feldman, K.A., and Meyerowitz, E.M. (1990) The protein encoded by the *Arabidopsis* homeotic gene *AGAMOUS* resembles transcription factors. *Nature* 346, 35-39.
- Drews, G.N.**, Bowman, J.L., and Meyerowitz, E.M. (1991) Negative regulation of the *Arabidopsis* homeotic gene *AGAMOUS* by the *APETALA2* product. *Cell* 65, 991-1002. (featured on the cover)
- Bowman, J.L., **Drews, G.N.**, and Meyerowitz, E.M. (1991) Expression of the *Arabidopsis* floral homeotic gene *AGAMOUS* is restricted to specific cell types late in flower development. *Plant Cell* 3, 749-758. (featured on the cover)
- Meyerowitz, E.M., Bowman, J.L., Brockman, L.L., **Drews, G.N.**, Jack, T., Sieburth, L.E., and Weigel, D. (1991) A genetic and molecular model for flower development in *Arabidopsis thaliana*. *Development* 1991 Supplement 1, 157-167.
- Drews, G.N.**, Weigel, D., and Meyerowitz, E.M. (1991) Floral Patterning. *Curr. Opin. Genet. Dev.* 1, 174-178.
- Drews, G.N.**, Beals, T.P., Bui, A.Q., and Goldberg, R.B. (1992) Regional and cell-specific gene expression patterns during petal development. *Plant Cell* 4, 1383-1404.
- Christensen, C., King, E.J., Jordan, J.R., and **Drews, G.N.** (1997) Megagametogenesis in *Arabidopsis* wild type and the *Gf* mutant. *Sexual Plant Reproduction* 10, 49-64.
- Dunn, S.M., **Drews, G.N.**, Fischer, R.L., Harada, J.J., Goldberg, R.B., and Koltunow, A.M. (1997) *fist*: An *Arabidopsis* mutant with altered cell division planes and radial pattern disruption during embryogenesis. *Sexual Plant Reproduction* 10, 358-367.
- Drews, G.N.**, Lee, D., and Christensen, C.A. (1998) Genetic analysis of female gametophyte development and function. *Plant Cell* 10, 5-17.
- Christensen, C.A., Subramanian, S., and **Drews, G.N.** (1998) Identification of gametophytic mutations affecting female gametophyte development in *Arabidopsis*. *Developmental Biology* 202, 136-151.
- Drews, G.N.** (1998) *In situ* hybridization. In *Methods in Molecular Biology*, Vol 82: *Arabidopsis* Protocols. Eds J.M. Martinez-Zapater and J. Salinas. Humana Press Inc., Totowa, NJ. pp. 353-384.

- Sieburth, L.E., **Drews, G.N.**, and Meyerowitz, E.M. (1998) Non-autonomy of AG function in flower development: Use of a CRE/Lox method for mosaic analysis in *Arabidopsis*. *Development*, 125, 4303-4312.
- Chen, Q., Atkinson, A., Otsuga, D., Christensen, T., Reynolds, L., and **Drews, G.N.** (1999) The *FILAMENTOUS FLOWER* gene is required for flower formation. *Development* 126, 2715-2726.
- Siegfried, K.R., Eshed, Y., Baum, S.F., Otsuga, D., **Drews, G.N.**, and Bowman, J.L. (1999) Members of the YABBY gene family specify abaxial cell fate in *Arabidopsis*. *Development* 126, 4117-4128.
- Otsuga, D., DeGuzman, B., Prigge, M.J., **Drews, G.N.**, and Clark, S.E. (2001) *REVOLUTA* regulates meristem activity at lateral positions. *Plant Journal* 25, 223-236. (featured on the cover)
- Christensen, C.A., Gorsich, S.W., Brown, R., Jones, L., Brown, J., Shaw, J., and **Drews, G.N.** (2002) Mitochondrial GFA2 is required for synergid cell death in *Arabidopsis*. *Plant Cell* 14, 2215-2232. (featured on the cover)
- Pischke, M.S., Jones, L.G., Otsuga, D., Fernandez, D.E., **Drews, G.N.**, and Sussman, M.R. (2002) An *Arabidopsis* histidine kinase is essential for megagametogenesis. *Proc. Natl. Acad. Sci.* 99, 15800 – 15805.
- Drews, G.N.** and Yadegari, R. (2002) Female gametophyte development and function. *Annual Review of Genetics* 36, 99-124.
- Yadegari, R. and **Drews, G.N.** (2004) Female gametophyte development. *Plant Cell* 16, S133-S141.
- Prigge, M.J., Otsuga, D., Alonso, J.M., Ecker, J.R., **Drews, G.N.**, and Clark, S.E. (2005) Class III homeodomain-leucine zipper gene family members have overlapping, antagonistic, and distinct roles in *Arabidopsis* development. *Plant Cell* 17, 61-76.
- Lloyd, A., Plaisier, C.L., Carroll, D., and **Drews, G.N.** (2005) Targeted mutagenesis using zinc-finger nucleases in *Arabidopsis*. *Proc. Natl. Acad. Sci.* 102, 2232-2237.
- Kasahara, R.D., Portereiko, M.F., Sandaklie-Nikolova, L., Rabiger, D.S., and **Drews, G.N.** (2005) *MYB98* is required for pollen tube guidance and synergid cell differentiation in *Arabidopsis*. *Plant Cell* 17, 2981-2992.
- Portereiko, M.F., Lloyd, A., Steffen, J.G., Punwani, J.A., Otsuga, D., and **Drews, G.N.** (2006) *AGL80* is required for central cell and endosperm development in *Arabidopsis*. *Plant Cell* 18, 1862-1872.
- Portereiko, M.F., Sandaklie-Nikolova, Lloyd, A., Dever, C., Otsuga, D., and **Drews, G.N.** (2006) *NUCLEAR FUSION DEFECTIVE1* encodes the *Arabidopsis* RPL21M protein and is required for karyogamy during female gametophyte development and fertilization. *Plant Physiology* 141, 957-965.
- Coury, D.A., Zhang, C., Ko, A., Skaggs, M.I., Christensen, C.A., **Drews, G.N.**, Feldmann, K.A., and Yadegari, R. (2007) Segregation distortion in *Arabidopsis gametophytic factor 1 (gfa1)* mutants is caused by a deficiency of an essential RNA splicing factor. *Sexual Plant Reproduction* 20, 87-89.
- Steffen, J.G., Kang, I.-H., Macfarlane, J., and **Drews, G.N.** (2007) Identification of Genes Expressed in the *Arabidopsis* Female Gametophyte. *Plant Journal* 51, 281-292.
- Sandaklie-Nikolova, L., Palanivelu, R., King, E.J., Copenhaver, G.P., and **Drews, G.N.** (2007) Synergid cell death in *Arabidopsis* is triggered following direct interaction with the pollen tube. *Plant Physiology* 144, 1753-1762.
- Punwani, J.A., Rabiger, D.S., and **Drews, G.N.** (2007) *MYB98* positively regulates a battery of synergid-expressed genes encoding filiform apparatus-localized proteins. *Plant Cell* 19, 2557-2568.

- Punwani, J.A., and **Drews, G.N.** (2008) Development and function of the synergid cell. *Sexual Plant Reproduction* 21, 7-15.
- Kang, I.-H., Steffen, J.G., Portereiko, M.F., Lloyd, A., and **Drews, G.N.** (2008) The AGL62 MADS domain protein regulates cellularization during endosperm development in *Arabidopsis*. *Plant Cell* 20, 635-647.
- Punwani, J.A., Rabiger, D.S., Lloyd, A., and **Drews, G.N.** (2008) The MYB98 subcircuit of the synergid gene regulatory network includes genes directly and indirectly regulated by MYB98. *Plant Journal* 55, 406-414.
- Steffen, J.G., Kang, I.-H., Portereiko, M.F., Lloyd, A., and **Drews, G.N.** (2008) AGL61 interacts with AGL80 and is required for central cell development in *Arabidopsis*. *Plant Physiology*, 148, 259-268.
- Le, B. H., Cheng, C., Bui, A.Q., Wagmaistera, J.A., Henrya, K.F., Pelletier, J., Kwong, L., Belmonte, M., Kirkbride, R., Horvath, S., **Drews, G.N.**, Fischer, R.L., Okamuro, J.K., Harada, J.J., and Goldberg, R.B. (2010) Global analysis of gene activity during *Arabidopsis* seed development and identification of seed-specific transcription factors. *Proc. Natl. Acad. Sci.* 107, 8063-8070.
- Wang, D., Zhang, C., Hearn, D.J., Kang, I.-H., Punwani, J.A., Skaggs, M.I., **Drews, G.N.**, Schumaker, K.S., Yadegari, R. (2010) Identification of transcription-factor genes expressed in the *Arabidopsis* female gametophyte. *BMC Plant Biology* 10, 110.
- Drews, G.N.**, Wang, D., Steffen, J.G., Schumaker, K.S., and Yadegari, R. (2011) Identification of genes expressed in the angiosperm female gametophyte. *Journal of Experimental Botany* 62, 1593-1599.
- Drews, G.N.**, and Koltunow, A.M.G. (2011) The Female Gametophyte. *The Arabidopsis Book*, e0155.
- Belmonte, M.F., Kirkbride, R.C., Stone, S.L., Pelletier, J.M., Bui, A.Q., Yeung, E.C., Hashimoto, M., Fei, J., Harada, C.M., Munoz, M.D., Le, B.H., **Drews, G.N.**, Brady, S.M., Goldberg, R.B., Harada, J.J. (2013) Comprehensive developmental profiles of gene activity in regions and subregions of the *Arabidopsis* seed. *Proc. Natl. Acad. Sci.* 110, E435-E444.
- Rabiger, D.S., **Drews, G.N.** (2013) MYB64 and MYB119 are required for cellularization and differentiation during female gametogenesis in *Arabidopsis thaliana*. *PLoS Genetics* 9, e1003783. doi:10.1371/journal.pgen.1003783.
- Li, G., Wang, D., Yang, R., Logan, K., Chen, H., Zhang, S., Skaggs, M.I., Lloyd A., Burnett, W.J., Laurie, J.D., Hunter, B.G., Dannenhoffer, J.M., Larkins, B.A., **Drews, G.N.**, Wang, X., and Yadegari, R. (2014) Temporal patterns of gene expression in developing maize endosperm identified through transcriptome sequencing. *Proc. Natl. Acad. Sci.* 111, 7582-7587.
- Zhan, J., Thakare, D., Ma, C., Lloyd, A., Nixon, N.M., Arakaki, A.M., Burnett, W.J., Logan, K., Wang, D., Wang, X., **Drews, G.N.**, and Yadegari, R. (2015) RNA sequencing of laser-capture microdissected compartments of the maize kernel identifies regulatory modules associated with endosperm cell differentiation. *Plant Cell* 27, 513-531.
- Carroll, D., Golic, M.M., Bibikova, M., **Drews, G.N.**, Golic, K.G. (2015) United States Patent No. 9,145,565: Targeted chromosomal mutagenesis using zinc finger nucleases. Issued September 29, 2015.
- Resentini, F., Cyprius, P., Steffen, J.G., Alter, S., Morandini, P., Mizzotti, C., Lloyd, A., **Drews, G.N.**, Dresselhaus, T., Colombo, L., Sprunck, S., Masiero, S. (2017) SUPPRESSOR OF FRIGIDA (SUF4) Supports Gamete Fusion via Regulating *Arabidopsis EC1* Gene Expression. *Plant Physiology* 173, 155-166.
- Zhang, S., Wang, D., Zhang, H., Skaggs, M.I., Lloyd, A., Ran, D., An, L., Schumaker,

- K.S., **Drews, G.N.**, Yadegari, Y. (2018) FERTILIZATION-INDEPENDENT SEED-Polycomb Repressive Complex 2 plays a dual role in regulating type I MADS-box genes in early endosperm development. *Plant Physiology*, 177, 285-299.
- Zhan, J., Li, G., Ryu, C.H., Ma, C., Zhang, S., Lloyd, A., Hunter, B.G., Larkins, B.A., **Drews, G.N.**, Wang, X., Yadegari, R. (2018) Opaque-2 regulates a complex gene network associated with cell differentiation and storage function of maize endosperm. *Plant Cell* 30, 2425-2446.

INVITED SEMINARS

- 2000: Plant Development Meeting; Lake Arrowhead, CA
Seed Development Conference; Davis, CA
- 2001: Plant Development Meeting; Lake Arrowhead, CA
University of Nijmegen; Nijmegen, Netherlands
Seed Development Conference; Davis, CA
- 2002: Department of Plant Sciences; Davis, CA
Seed Development Conference; Lake Arrowhead, CA
Plant Embryogenesis Meeting; Davis, CA
- 2003: Plant Development Meeting; Lake Arrowhead, CA
Department of Plant Sciences; University of Arizona
Seed Development Conference; Davis, CA
- 2004: Plant Senescence and Cell Death Gordon Conference; Mt Holyoke, MA
18th International Congress on Sexual Plant Reproduction; Beijing, China
Frontiers in Sexual Plant Reproduction-II; Albany, NY (session organizer)
Seed Development Conference; Lake Arrowhead, CA
- 2005: Seed Development Conference; Lake Arrowhead, CA
- 2006: 8th International Congress of Plant Molecular Biology, Australia (session organizer)
Ceres, Inc.; Malibu, CA
Seed Development Conference; Lake Arrowhead, CA
- 2007: QMB Satellite Conference on Plant Gene Regulation and Development;
Queensland, New Zealand
Seed Development Conference; Lake Arrowhead, CA
- 2008: Department of Plant Biology, UC Davis
20th International Congress on Sexual Plant Reproduction; Brasilia, Brazil
Frontiers in Sexual Plant Reproduction-III; Tucson, AZ (session organizer)
Seed Development Conference; Lake Arrowhead, CA
- 2009: Plant Biological Sciences Graduate Program, University of Minnesota
Department of Plant Biology, Carnegie Institution; Stanford, CA
Seed Development Conference; Lake Arrowhead, CA
- 2010: Dow Agrosiences; Indianapolis, IN
Utah State University; Logan, UT
CSIRO Plant Industry; Adelaide, Australia
21st International Congress on Sexual Plant Reproduction; Bristol, UK (Plenary speaker)
Seed Development Conference; Lake Arrowhead, CA
- 2011: Seed Development Conference; Lake Arrowhead, CA

- 2012: Dow Agrosiences; Indianapolis, IN
22nd International Congress on Sexual Plant Reproduction; Melbourne, AU
Seed Development Conference; Lake Arrowhead, CA
- 2013: Seed Development Conference; Lake Arrowhead, CA
- 2013: Seed Development Conference; Lake Arrowhead, CA
- 2014: Plant Genetics Conference; Aspen Grove, UT
- 2016: 24th International Congress on Sexual Plant Reproduction; Tucson, AZ