

CURRICULUM VITAE

RAMIN YADEGARI

Professor

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EDUCATION & TRAINING

- 1996-2000 Postdoctoral Fellow, Plant & Microbial Biology, UC Berkeley
Mentor: Robert L. Fischer (Professor Emeritus)
- 1987-1994 Ph.D. (1996), Molecular, Cell & Development Biology, UCLA
Advisor: Robert B. Goldberg
- 1982-1986 B.S., Biological Sciences, UC Irvine

RESEARCH APPOINTMENTS

- since 2015 Professor, School of Plant Sciences, U. Arizona
Professor, BIO5 Institute, Molecular & Cellular Biology and Graduate Interdisciplinary Program in Genetics, U. Arizona
- 2007-2015 Associate Professor, School of Plant Sciences, U. Arizona
- 2001-2007 Assistant Professor, Department of Plant Sciences, U. Arizona

HONORS, AWARDS & FELLOWSHIPS

- 2013 Shirley O'Brien Diversity Award, College of Agriculture & Life Sciences, U. Arizona
- 1996-1999 DOE-Energy Biosciences Research Fellowship of the Life Sciences Research Foundation (LSRF), UC Berkeley
- 1996 Distinguished Graduate Research Award, Dept. MCD Biology, UCLA
- 1990-1993 NRSA-NIH Predoctoral Traineeship in Genetics, UCLA
- 1989 Dean of Life Sciences Plant Molecular Biology Fellowship, UCLA
- 1987-1989 McKnight Foundation Plant Molecular Biology Traineeship, UCLA

MAJOR GRANT SUPPORT

- 2016-2021 NSF Plant Genome Research Program, [IOS-1444568](https://www.nsf.gov/awardsearch/showAward?AWD_ID=IOS-1444568). R. Yadegari, PI with co-PIs P.W. Becraft (Iowa State), G.N. Drews (Utah), and J.M. Dannenhoffer (Central Michigan Univ.). *Gene Regulatory Networks in the Maize Endosperm*. (includes 3 years of NCE)
(Project website: grainendosperm.org)
- 2009-2016 NSF Plant Genome Research Program, [IOS-0923880](https://www.nsf.gov/awardsearch/showAward?AWD_ID=IOS-0923880). R. Yadegari, PI with co-PIs B. Larkins (Arizona), G.N. Drews (Utah), J.M. Dannenhoffer (Central Michigan Univ.), and A. Clore (New College of Florida). *Regulation of Early Endosperm Development in Maize*. (included 2 years of NCE)
- 2006-2009 DOE Basic Energy Biosciences (competitive renewal). R. Yadegari, PI. *Control of Endosperm Development by the Polycomb-group Protein FIS2*.
- 2005-2009 NSF Arabidopsis 2010 Project, [IOS-0520008](https://www.nsf.gov/awardsearch/showAward?AWD_ID=IOS-0520008). R. Yadegari, PI with co-PIs K.S. Schumaker (Arizona) and G.N. Drews (Utah). *Regulatory Networks Controlling Female Gametophyte Development*.
- 2003-2005 NSF Plant Genome Research Program, [IOS-0321462](https://www.nsf.gov/awardsearch/showAward?AWD_ID=IOS-0321462). S. Kianian, PI with co-PIs B.S. Gill (Kansas State), J. Dubcovsky (UC Davis), O. Riera-Lizarazu (Oregon State), and R. Yadegari. *Development of Diploid Wheat (Triticum monococcum) Deletion Lines for Reverse Genetics*.
- 2003-2006 DOE Basic Energy Biosciences. R. Yadegari, PI. *Control of Endosperm Initiation and Proliferation by the Zinc-Finger Polycomb Protein FIS2*.

PUBLICATIONS

- Wu H, Galli M, Spears CJ, Zhan J, Liu P, **Yadegari R**, Dannenhoffer JM, Gallavotti A, Becraft PW. (2023) NAKED ENDOSPERM1, NAKED ENDOSPERM2, and OPAQUE2 interact to regulate gene networks in maize endosperm development. *Plant Cell*. 2023 Dec 21;36(1):19-39. doi: 10.1093/plcell/koad247. <https://pubmed.ncbi.nlm.nih.gov/37795691/>
- Li Y, Liu W, Zhang X, Wang S, **Yadegari R**, Wang J. (2023) Editorial: Advances in crop biomass production based on multi-omics approach. *Front Plant Sci*. 2023 Apr 19;14:1155442. doi: 10.3389/fpls.2023.1155442. eCollection 2023. <https://pubmed.ncbi.nlm.nih.gov/37152170/>
- Wu, H, Li, G, Zhan, J, Zhang, S, Beall, BD, **Yadegari, R**, Becraft, PW (2022). Rearrangement with the nkd2 promoter contributed to allelic diversity of the r1 gene in maize (*Zea mays*). *Plant J*. 111:1701-1716. doi: 10.1111/tpj.15918. <https://pubmed.ncbi.nlm.nih.gov/35876146/>
- Plant Cell Atlas Consortium**; Jha, SG, Borowsky, AT, Cole, BJ, Fahlgren, N, Farmer, A, Huang, SC, Karia, P, Libault, M, Provart, NJ, Rice, SL, Saura-Sanchez, M, Agarwal, P, Ahkami, AH, Anderton, CR, Briggs, SP, Brophy, JA, Denolf, P, Di Costanzo, LF, Exposito-Alonso, M, Giacomello, S, Gomez-Cano, F, Kaufmann, K, Ko, DK, Kumar, S, Malkovskiy, AV, Nakayama, N, Obata, T, Otegu, i MS, Palfalvi, G, Quezada-Rodriguez, EH, Singh, R, Uhrig, RG, Waese, J, Van Wijk, K, Wright, RC, Ehrhardt, DW, Birnbaum, KD, Rhee, SY (2021). Vision, challenges and opportunities for a Plant Cell Atlas. *Elife*. 2021 Sep 7;10:e66877. doi: 10.7554/eLife.66877. <https://pubmed.ncbi.nlm.nih.gov/34491200/>
- Friesner, J, Colon-Carmona, A, Schnoes, A, Stepanova, A, Mason, G, MacIntosh, G, Ullah, H, Baxter, I, Callis, J, Sierra-Cajas, K, Elliott, K, Haswell, E, Zavala, ME, Wildermuth, M, Williams, M, Ayalew, M, Henkhaus, N, Prunet, N, Lemaux, P, **Yadegari, R**, Amasino, R, Hangarter, R, Innes, R, Brady, S, Long, T, Woodford-Thomas, T, May, V, Sun, Y, and Dinneny, JR (2021). Broadening the impact of plant science through innovative, integrative and inclusive outreach. *Plant Direct*. 2021 Apr 14;5(4):e00316. doi: 10.1002/pld3.316.. <https://pubmed.ncbi.nlm.nih.gov/33870032/>
- Zhan, J, Li, G, Ryu, CH, Ma, C, Zhang, S, Lloyd, A, Hunter, BG, Larkins, BA, Drews, GN, Wang, X, and **Yadegari, R** (2018). Opaque-2 Regulates a Complex Gene Network Associated with Cell Differentiation and Storage Functions of Maize Endosperm. *Plant Cell* 30, 2425-2446. <http://www.ncbi.nlm.nih.gov/pubmed/30262552> [Highlighted in an In Brief in the *Plant Cell* <http://www.plantcell.org/content/early/2018/11/21/tpc.18.00882>]
- Zhang, S, Thakare, D, and **Yadegari, R** (2018a). Laser-Capture Microdissection of Maize Kernel Compartments for RNA-Seq-Based Expression Analysis. *Methods Mol Biol* 1676, 153-163. <http://www.ncbi.nlm.nih.gov/pubmed/28986909>
- Zhang, S, Wang, D, Zhang, H, Skaggs, MI, Lloyd, A, Ran, D, An, L, Schumaker, KS, Drews, GN, and **Yadegari, R** (2018b). FERTILIZATION-INDEPENDENT SEED-Polycomb Repressive Complex 2 Plays a Dual Role in Regulating Type I MADS-Box Genes in Early Endosperm Development. *Plant Physiol* 177, 285-299. <http://www.ncbi.nlm.nih.gov/pubmed/29523711>
- Zhang, S, Zhan, J, and **Yadegari, R** (2018c). Maize opaque mutants are no longer so opaque. *Plant Reprod* 31, 319-326. <http://www.ncbi.nlm.nih.gov/pubmed/29978299>
- Zhan, J, Dannenhoffer, JM, and **Yadegari, R** (2017). Endosperm Development and Cell Specialization. In *Maize Kernel Development*, B.A. Larkins, ed. (Boston, MA: CABI Publishers), pp. 28-43. <https://www.cabi.org/bookshop/book/9781786391216>
- Monihan, SM, Magness, CA, **Yadegari, R**, Smith, SE, and Schumaker, KS (2016). Arabidopsis CALCINEURIN B-LIKE10 Functions Independently of the SOS Pathway during Reproductive Development in Saline Conditions. *Plant Physiol* 171, 369-379. <http://www.ncbi.nlm.nih.gov/pubmed/26979332>
- Qin, Y, **Yadegari, R**, and Palanivelu, R (2015). ACTIN-RELATED PROTEIN 6 regulates DISRUPTED MEIOTIC cDNA 1 gene expression in Arabidopsis thaliana ovules. *Molecular Reproduction and Development* 82, 499-499. <https://onlinelibrary.wiley.com/doi/abs/10.1002/mrd.22472>
- Zhan, J, Thakare, D, Ma, C, Lloyd, A, Nixon, NM, Arakaki, AM, Burnett, WJ, Logan, KO, Wang, D, Wang, X, Drews, GN, 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. <http://www.ncbi.nlm.nih.gov/pubmed/25783031>
- Leroux, BM, Goodyke, AJ, Schumacher, KI, Abbott, CP, Clore, AM, **Yadegari, R**, Larkins, BA, and Dannenhoffer, JM (2014). Maize early endosperm growth and development: from fertilization through cell type differentiation. *Am J Bot* 101, 1259-1274. <http://www.ncbi.nlm.nih.gov/pubmed/25104551>

- Li, G, Wang, D, Yang, R, Logan, K, Chen, H, Zhang, S, Skaggs, MI, Lloyd, A, Burnett, WJ, Laurie, JD, Hunter, BG, Dannenhoffer, JM, Larkins, BA, Drews, GN, Wang, X, and **Yadegari, R** (2014). Temporal patterns of gene expression in developing maize endosperm identified through transcriptome sequencing. *Proc Natl Acad Sci U S A* 111, 7582-7587. <http://www.ncbi.nlm.nih.gov/pubmed/24821765>
- Qin, Y, Zhao, L, Skaggs, MI, Andreuzza, S, Tsukamoto, T, Panoli, A, Wallace, KN, Smith, S, Siddiqi, I, Yang, Z, **Yadegari, R**, and Palanivelu, R (2014). ACTIN-RELATED PROTEIN6 Regulates Female Meiosis by Modulating Meiotic Gene Expression in Arabidopsis. *Plant Cell* 26, 1612-1628. <http://www.ncbi.nlm.nih.gov/pubmed/24737671>
- Thakare, D, Yang, R, Steffen, JG, Zhan, J, Wang, D, Clark, RM, Wang, X, and **Yadegari, R** (2014). RNA-Seq analysis of laser-capture microdissected cells of the developing central starchy endosperm of maize. *Genom Data* 2, 242-245. <http://www.ncbi.nlm.nih.gov/pubmed/26484101>
- Xin, M, Yang, R, Li, G, Chen, H, Laurie, J, Ma, C, Wang, D, Yao, Y, Larkins, BA, Sun, Q, **Yadegari, R**, Wang, X, and Ni, Z (2013). Dynamic expression of imprinted genes associates with maternally controlled nutrient allocation during maize endosperm development. *Plant Cell* 25, 3212-3227. <http://www.ncbi.nlm.nih.gov/pubmed/24058158>
- Drews, GN, Wang, D, Steffen, JG, Schumaker, KS, and **Yadegari, R** (2011). Identification of genes expressed in the angiosperm female gametophyte. *J Exp Bot* 62, 1593-1599. <http://www.ncbi.nlm.nih.gov/pubmed/21118822>
- Wang, D, Zhang, C, Hearn, DJ, Kang, IH, Punwani, JA, Skaggs, MI, Drews, GN, Schumaker, KS, and **Yadegari, R** (2010). Identification of transcription-factor genes expressed in the Arabidopsis female gametophyte. *BMC Plant Biol* 10, 110. <http://www.ncbi.nlm.nih.gov/pubmed/20550711>
- Chung, T, Wang, D, Kim, CS, **Yadegari, R**, and Larkins, BA (2009). Plant SMU-1 and SMU-2 homologues regulate pre-mRNA splicing and multiple aspects of development. *Plant Physiol* 151, 1498-1512. <http://www.ncbi.nlm.nih.gov/pubmed/19734266>
- Courty, DA, Zhang, CQ, Ko, A, Skaggs, MI, Christensen, CA, Drews, GN, Feldmann, KA, 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, 87-97. <https://link.springer.com/article/10.1007%2Fs00497-007-0046-8>
- Nodine, MD, **Yadegari, R**, and Tax, FE (2007). RPK1 and TOAD2 are two receptor-like kinases redundantly required for arabidopsis embryonic pattern formation. *Dev Cell* 12, 943-956. <http://www.ncbi.nlm.nih.gov/pubmed/17543866>
- Wang, D, Tyson, MD, Jackson, SS, and **Yadegari, R** (2006). Partially redundant functions of two SET-domain polycomb-group proteins in controlling initiation of seed development in Arabidopsis. *Proc Natl Acad Sci U S A* 103, 13244-13249. <http://www.ncbi.nlm.nih.gov/pubmed/16924116> [Highlighted in Molecular Biology Select. *Cell* 126, 1009-1011. <https://www.sciencedirect.com/science/article/pii/S0092867406011615>]
- Dinneny, JR, **Yadegari, R**, Fischer, RL, Yanofsky, MF, and Weigel, D (2004). The role of JAGGED in shaping lateral organs. *Development* 131, 1101-1110. <http://www.ncbi.nlm.nih.gov/pubmed/14973282>
- Yadegari, R**, and Drews, GN (2004). Female gametophyte development. *Plant Cell* 16 Suppl, S133-141. <http://www.ncbi.nlm.nih.gov/pubmed/15075395>
- Apuya, NR, **Yadegari, R**, Fischer, RL, Harada, JJ, and Goldberg, RB (2002). RASPBERRY3 gene encodes a novel protein important for embryo development. *Plant Physiol* 129, 691-705. <http://www.ncbi.nlm.nih.gov/pubmed/12068112>
- Drews, GN, and **Yadegari, R** (2002). Development and function of the angiosperm female gametophyte. *Annu Rev Genet* 36, 99-124. <http://www.ncbi.nlm.nih.gov/pubmed/12429688>
- Apuya, NR, **Yadegari, R**, Fischer, RL, Harada, JJ, Zimmerman, JL, and Goldberg, RB (2001). The Arabidopsis embryo mutant schlepperless has a defect in the chaperonin-60alpha gene. *Plant Physiol* 126, 717-730. <http://www.ncbi.nlm.nih.gov/pubmed/11402200>
- Yadegari, R**, Kinoshita, T, Lotan, O, Cohen, G, Katz, A, Choi, Y, Katz, A, Nakashima, K, Harada, JJ, Goldberg, RB, Fischer, RL, and Ohad, N (2000). Mutations in the FIE and MEA genes that encode interacting polycomb proteins cause parent-of-origin effects on seed development by distinct mechanisms. *Plant Cell* 12, 2367-2382. <http://www.ncbi.nlm.nih.gov/pubmed/11148284>
- Kinoshita, T, **Yadegari, R**, Harada, JJ, Goldberg, RB, and Fischer, RL (1999). Imprinting of the MEDEA polycomb gene in the Arabidopsis endosperm. *Plant Cell* 11, 1945-1952. <http://www.ncbi.nlm.nih.gov/pubmed/10521524>
- Kiyosue, T, Ohad, N, **Yadegari, R**, Hannon, M, Dinneny, J, Wells, D, Katz, A, Margossian, L, Harada, JJ, Goldberg, RB, and Fischer, RL (1999). Control of fertilization-independent endosperm development by the MEDEA polycomb gene in Arabidopsis. *Proc Natl Acad Sci U S A* 96, 4186-4191. <http://www.ncbi.nlm.nih.gov/pubmed/10097185>
- Ohad, N, **Yadegari, R**, Margossian, L, Hannon, M, Michaeli, D, Harada, JJ, Goldberg, RB, and Fischer, RL (1999). Mutations in FIE, a WD polycomb group gene, allow endosperm development without fertilization. *Plant Cell* 11, 407-416. <http://www.ncbi.nlm.nih.gov/pubmed/10072400>

- Yadegari, R.** and Goldberg, RB (1997). Embryogenesis in Dicotyledonous Plants. In Cellular and Molecular Biology of Plant Seed Development, B.A. Larkins, and I.K. Vasil, eds. (Dordrecht: Kluwer Academic Publishers), pp. 3-52.
<https://www.springer.com/us/book/9780792346456>
- Goldberg, RB, de Paiva, G, and **Yadegari, R** (1994). Plant embryogenesis: zygote to seed. Science 266, 605-614.
<http://www.ncbi.nlm.nih.gov/pubmed/17793455>
- Yadegari, R.**, Paiva, G, Laux, T, Koltunow, AM, Apuya, N, Zimmerman, JL, Fischer, RL, Harada, JJ, and Goldberg, RB (1994). Cell Differentiation and Morphogenesis Are Uncoupled in Arabidopsis raspberry Embryos. Plant Cell 6, 1713-1729. <http://www.ncbi.nlm.nih.gov/pubmed/12244232>
- Guiltinan, MJ, Ma, DP, Barker, RF, Bustos, MM, Cyr, RJ, **Yadegari, R.** and Fosket, DE (1987). The isolation, characterization and sequence of two divergent beta-tubulin genes from soybean (*Glycine max* L.). Plant Mol Biol 10, 171-184. <http://www.ncbi.nlm.nih.gov/pubmed/24277502>
- Rosenthal, A, Rhee, L, **Yadegari, R.**, Paro, R, Ullrich, A, and Goeddel, DV (1987). Structure and nucleotide sequence of a *Drosophila melanogaster* protein kinase C gene. EMBO J 6, 433-441.
<http://www.ncbi.nlm.nih.gov/pubmed/3107983>

INVITED SEMINARS, WORKSHOPS & CONFERENCE PRESENTATIONS

- 2023 Annual Meeting of the Multistate Research Project: Environmental and Genetic Determinants of Seed Quality and Performance (W4168), Roanoke, VA. *Development and function of the basal endosperm transfer layer (BETL) of maize.*
- 2022 Maximizing Access to Research Careers (MARC) Seminar Series, University of Arizona, Tucson, AZ. *Transcriptional networks of maize endosperm.*
 Annual Meeting of the Multistate Research Project: Environmental and Genetic Determinants of Seed Quality and Performance (W4168), Tucson, AZ. *Transcriptional networks of basal endosperm transfer cell layer of maize.*
- 2021 Plant & Soil Sciences, U. Kentucky (remote seminar). *Gene networks of maize endosperm.*
 Annual Meeting of the Multistate Research Project: Environmental and Genetic Determinants of Seed Quality and Performance (W4168), Geneva, NY (remote seminar). *Effects of drought stress on early kernel development in maize.*
- 2020 Plant and Animal Genome XXVIII Conference: Seed Genomics Workshop, San Diego, CA. *Gene networks of maize endosperm.*
- 2019 Southwest Regional Society for Developmental Biology Meeting, Aurora, CO. *Gene regulatory processes of the developing endosperm in maize.*
 UC Davis Plant Biology Graduate Seminar, Davis, CA. *Gene networks of maize endosperm.*
 Annual Meeting of the Multistate Research Project: Environmental and Genetic Determinants of Seed Quality and Performance (W4168), Lexington, KY. *Early endosperm developmental programs in maize and their contribution to seed size (and quality?).*
- 2018 Workshop “Broadening the Impact of Plant Science Through Community-Based Innovation, Evaluation and Sharing of Outreach Programs,” UC Davis, Davis, CA. *ASEMS: Arizona’s Science, Engineering, and Math Scholars Program.*
 Annual Meeting of the Multistate Research Project: Environmental and Genetic Determinants of Seed Quality and Performance (W3168), Corvallis, OR. *Gene regulatory networks of early maize endosperm.*
 25th International Congress on Sexual Plant Reproduction (Plant Reproduction 2018), Gifu, Japan. *Gene regulatory networks of early maize endosperm.*
- 2017 2nd International Workshop on Plant Development and Drought Stress, Monterey, CA. *Gene regulatory networks of early maize endosperm—implications for drought response in young kernels.*
 24th Seed Institute Conference, UCLA, Los Angeles, CA. *Early Endosperm Gene Regulatory Networks.*
 12th Triennial Conference of the International Society for Seed Science, Monterey, CA. Panel talk: *The Future of Research in Seed Biology.*
 Bob Fischer Symposium (celebrating Robert L. Fischer’s career), UCLA, Los Angeles, CA. *Gene regulatory networks of maize endosperm.*

- 2016 Arid-Land Agricultural Research Center (USDA-ARS), Maricopa, AZ. *Understanding gene regulatory networks driving early endosperm development in maize.*
 Controlled Environment Agriculture Center (CEAC), U. Arizona, Tucson, AZ. *Understanding Seed Development: Molecular Control Mechanisms.*
 Dept. Biology & Microbiology, South Dakota State U., Brookings, SD. *Gene regulatory networks for endosperm development in maize.*
 Lecturer, Summer undergraduate research program, College of Science and Technology, Huazhong Agricultural U., Wuhan, China. Multiple lectures on reproductive plant development and regulation of gene expression.
 College of Science and Agriculture, Huazhong Agricultural U., Wuhan, China. *Gene regulatory networks of maize endosperm.*
 Annual Meeting of the Multistate Research Project: Environmental and Genetic Determinants of Seed Quality and Performance (W3168), San Antonio, TX. *An integrated analysis of gene networks regulating endosperm development in plants.*
- 2015 Southwest Regional Society for Developmental Biology Annual Meeting, UT Southwestern, Dallas, TX. *An integrated analysis of gene networks regulating endosperm development in plants.*
- 2014 School of Plant Sciences Interdisciplinary Seminar Series, U. Arizona, AZ. *Gene Regulatory Networks Controlling Maize Endosperm Development.*
 PBS Colloquium Seminar Series, U. Minnesota, MN. *Understanding Gene Regulatory Networks Controlling Endosperm Development in Maize.*
 Center for Biotechnology/Life Sciences, U. Nebraska, NE. *Deciphering Regulatory Networks Controlling Endosperm Development.*
- 2013 Arid-Land Agricultural Research Center (USDA-ARS), Maricopa, AZ. *Spatiotemporal patterns of gene expression in early maize endosperm.*
 Department of Genetics, Development, and Cell Biology, Iowa State U., Ames, IA. *Gene Networks in Early Endosperm Development.*
 Section of Molecular, Cell and Developmental Biology, U. Texas, Austin, TX. *Gene Networks in Early Endosperm Development.*
 School of Plant Sciences Retreat, U. Arizona, Biosphere 2, Oracle, AZ. *Gene Networks in Early Endosperm Development in Maize and Arabidopsis.*
- 2012 Center for Plant Cell Biology, UC Riverside, Riverside, CA. *Gene Networks in Early Endosperm Development in Arabidopsis and Maize.*
 Department of Genetics, North Carolina State University, Raleigh, NC. *Gene Regulatory Networks in Early Endosperm of Arabidopsis and Maize.*
- 2011 Donald Danforth Plant Science Center, St. Louis, MO. *Polycomb-group proteins and control of early seed development in Arabidopsis.*
- 2010 Frontiers of Plant Biology Summer Course, Huazhong Agricultural University, Wuhan, China. Two presentations: *Female gametophyte and early endosperm development in Arabidopsis*, and *Early reproductive development in Arabidopsis.*
- 2008 Sixteenth Annual Seed Institute Conference, UCLA Conference Center, Lake Arrowhead, CA. *Regulatory networks and genes controlling female gametophyte development.*
 Department of Plant Biology, Carnegie Institution for Science, Palo Alto, CA. *Polycomb proteins and the control of seed development in Arabidopsis.*
- 2006 Plant Physiology Program Seminar Series, Pennsylvania State University, University Park, PA. *Understanding gene regulatory networks required for female gametophyte development and function.*
 Biology Department Seminars, Pennsylvania State University, University Park, PA. *Overlapping functions of two set-domain Polycomb-group proteins and control of seed induction in Arabidopsis.*
 Eighth International Congress on Plant Molecular Biology, Adelaide, South Australia. *Expression and function of Polycomb-group proteins involved in regulating the initiation of endosperm development in Arabidopsis.*
 Department of Plant Sciences, University of Arizona, Tucson, AZ. *Epigenetic control of seed induction in Arabidopsis.*
 Department of Molecular & Cell Biology, University of Arizona, Tucson, AZ. *Polycomb-group proteins and control of early development in Arabidopsis.*

- 2005 MARC Seminar Series, The University of Arizona, Tucson, AZ. *Regulation of early plant development by Polycomb-group proteins.*
Southwest Consortium on Plant Genetics and Water Resources, Santa Ana Pueblo, NM. *Identification of chromatin regulatory factors controlling stress responses in Arabidopsis.*
ASPB Plant Genetics 2005: Mechanisms of Genetic Variation, Snowbird, UT. *Overlapping roles of set-domain Polycomb-group proteins in regulating endosperm development in Arabidopsis.*
- 2004 FASEB Summer Research Conference: Mechanisms in Plant Development, Saxtons River, VT. *Polycomb-group proteins and control of endosperm initiation in Arabidopsis.*
Frontiers in Sexual Plant Reproduction II, University at Albany, State University of New York, Albany, NY. *Polycomb-group proteins and control of endosperm initiation in Arabidopsis.*
- 2003 Southwest and Gulf Regional Society for Developmental Biology Meeting, Salt Lake City, UT. *Regulation of early seed development by chromatin-regulatory proteins.*
- 2002 MARC Seminar Series, The University of Arizona, Tucson, AZ. *Induction of seed development in flowering plants.*
Graduate Interdisciplinary Program in Genetics, University of Arizona, Tucson, AZ. *Regulation of early endosperm development in Arabidopsis.*
- 2001 Department of Plant Sciences, University of Arizona, Tucson, AZ. *Control of early development in Arabidopsis by Polycomb proteins.*
- 2000 Department of Plant Sciences, University of Arizona, Tucson, AZ. *Control of endosperm development by Polycomb proteins.*
School of Biological Sciences and Center for Reproductive Biology, Washington State University, Pullman, WA. *Regulation of early seed development in Arabidopsis.*
- 1999 International Botanical Congress, St. Louis, MO. *Initiation of endosperm development in Arabidopsis.*
- 1998 West Coast Regional Developmental Biology Conference, Bodega Bay, CA. *Control of fertilization-independent endosperm development by the FIE genes.*
Department of Biology, Sonoma State University, Rohnert Park, CA. *Fertilization-independent development in Arabidopsis.*
Keystone Symposium on “Interactions and Intersections in Plant Signaling Pathways”, Coeur d’Alene, ID. *Initiation of reproductive development in Arabidopsis.*

PROFESSIONAL ACTIVITIES: NATIONAL & INTERNATIONAL

- Society Activities,** American Society for Plant Biology (ASPB) Equity Diversity and Inclusion Committee (EDIC)
External Review & member (since 2021), Liaison to ASPB Program Committee (2023-2024).
Advisory Panels Extramural Review Team member, Undergraduate Program in Plant Biology, UC Riverside, CA (2021)
Nebraska NSF EPSCoR Research Infrastructure Improvement (RII) Track 1 external review panel member, U. Nebraska, Lincoln, NE (2015)
- Grant Panels** USDA-AFRI Physiology of Agricultural Plants Program, Washington, DC (2016)
NSF Plant Genome Research Program, Washington, DC (2015)
NSF Plant Genome Research Program, Washington, DC (2013)
NSF Plant, Fungal and Microbial Developmental Systems, Washington, DC (2007)
NSF Plant and Microbial Developmental Mechanisms, Washington, DC (2007)
DOE Energy Biosciences Research Program, Office of Basic Energy Sciences, Washington, DC (2006)
NSF Plant and Microbial Developmental Mechanisms, Washington, DC (2005)
- Ad-hoc Proposal Review** NSF-Plant Genome Research Program (every year since 2009)
NSF-MCB, Genetic Mechanisms (2021)
Foundation for Food and Agriculture Research (FFAR, 2020)
NSF-MCB, Cellular Dynamics and Function (2020)
NSF-IBN/IOS, Plant, Fungi, Microbial Developmental Mechanisms/Plant and Microbial Developmental Mechanisms (multiple years)
NSF-MCB, Genes & Genome Systems/Genetic Mechanisms (multiple years)

USDA/USDA-NIFA-AFRI, Plant Growth & Development, Plant Genetic Mechanisms,
 Developmental Processes of Crop Plants, Physiology of Agricultural Plants (multiple years)
 U. Kentucky-Kentucky Ag. Research Station (2017)
 Thematic Research Program of Academia Sinica, Division of Life Sciences, Taiwan (2015)
 DOE Office of Science Graduate Fellowship (DOE SCGF) Program, multiple proposals (2010)
 Austrian Science Fund, FWF Der Wissenschaftsfonds, Dept. of Biological and Medical Sciences
 (2008, 2007)
 Biotechnology and Biological Sciences Research Council (BBSRC), Committee on Genes &
 Developmental Biology, UK (2008, 2007)

**Journal & Book
 Editing**

Guest Co-Editor, Frontiers in Plant Science (Plant Bioinformatics), Advances in Crop Biomass
 Production based on Multi-omics Approach (2022-2023)
 Guest Co-Editor, Frontiers in Plant Science, Maize Seed Development and Genetic Improvement
 (2021-2022)
 Editor, Journal of Integrative Plant Biology (since 2020)
 Associate Editor, Frontiers in Plant Science, Section on Plant Development & EvoDevo, previously
 Plant Genetics & Genomics (since 2013)
 Chapter Reviewer, Taiz & Zeiger, *Plant Physiology*, 6th edition, Chapter 20, Growth and
 Development IV: Plant Sexual Reproduction (2013)
 Review Editor, Frontiers in Plant Genetics and Genomics (2010-2013)
 Soliciting editor and co-editor of a special issue of Molecular Plant on Development and Epigenetics
 published in 2009 (2008-2009)
 Chapter Reviewer, Campbell & Reece, *Biology*, 8th edition, Chapter 38, Angiosperm Reproduction
 and Biotechnology (2007)
 Editorial Board Member, Developmental Dynamics (2004-2014)

**Ad-hoc Manuscript
 Review
 (*2020-2023)**

<i>American Journal of Botany</i>	<i>Nature Protocols</i>
<i>BMC Evolutionary Biology</i>	<i>New Phytologist*</i>
<i>BMC Genomics</i>	<i>Physiologia Plantarum</i>
<i>Development</i>	<i>Plant Biotechnology Journal*</i>
<i>Developmental Biology</i>	<i>The Plant Cell*</i>
<i>Developmental Dynamics</i>	<i>Plant Cell Physiology</i>
<i>EMBO Journal*</i>	<i>Plant Genome*</i>
<i>Frontiers in Plant Sciences (Genetics & Genomics)</i>	<i>Plant Growth Regulation*</i>
<i>Genes & Environment</i>	<i>Plant Journal*</i>
<i>Genetics</i>	<i>Plant Molecular Biology</i>
<i>International Journal of Molecular Sciences</i>	<i>Plant Physiology*</i>
<i>Journal of Experimental Botany</i>	<i>Plant Reproduction</i>
<i>Journal of integrative Plant Biology*</i>	<i>Plant Science</i>
<i>Journal of Plant Physiology</i>	<i>Planta</i>
<i>JoVE*</i>	<i>PLoS Genetics*</i>
<i>Molecular Genetics & Genomics (MGG)</i>	<i>Proceedings of the National Academy of Sciences USA (PNAS)*</i>
<i>Molecular Plant</i>	<i>Scientific Reports</i>
<i>Nature Communications*</i>	<i>Theoretical and Applied Genetics</i>
<i>Nature Plants*</i>	<i>Trends in Plant Sciences (TIPS)</i>

**Tenure &
 Promotion
 Evaluation**

Florida State U., Tallahassee, FL (promotion, 2022, 2023)
 U. Kentucky, Lexington, KY (tenure, 2021)
 UC Davis, Davis, CA (promotion, 2019)
 U. Florida, Gainesville, FL (promotion, 2019)
 Texas A&M University, TX (promotion, 2019)
 Saint Louis U., St. Louis, MO (promotion, 2018)
 North Carolina State U., Raleigh, NC (tenure, 2017)

North Carolina State U., Raleigh, NC (promotion, 2016)
 U. Nebraska, Lincoln, NE (tenure, 2014)
 UC Riverside, CA (tenure, 2012)
 Carnegie Institution for Science, Palo Alto, CA (tenure, 2011)

***Working Groups,
Conferences &
Workshops***

Organizer, Annual Meeting of the national [W4168](#) Working Group on Environmental and Genetic Determinants of Seed Quality and Performance, Tucson, AZ (2022)
 Secretary, national working group on Environmental and Genetic Determinants of Seed Quality and Performance [W4168](#) (previously [W3168](#)), NIFA-WAAESD Multistate Research Projects (2019-2020, 2018-2019)
 Workshop on Broadening the Impact of Plant Science Through Community-Based Innovation, Evaluation and Sharing of Outreach Programs, invited speaker and a lead writer to develop a white paper, UC Davis, Davis, CA (2018)
 Scientific Committee Member, [12th Triennial Conference of the International Society for Seed Science](#), Monterey, CA (2016-2017)
 Co-Organizer (with Ravi Palanivelu), 24th International Congress on Sexual Plant Reproduction ([Plant Reproduction 2016](#)), Tucson, AZ (2016)
 Minisymposium Chair, “From Embryo to Seedling”, Plant Biology 2012, the Annual Meeting of the American Society of Plant Biologists (ASPB), Austin, TX (2012)
 Faculty Instructor, Frontiers of Plant Biology Summer Course, Huazhong Agricultural University, Wuhan, China (2010)
 Session Chair, Frontiers of Sexual Plant Reproduction III conference, Tucson, AZ (2008)
 Local Organizing Committee member, 2nd Annual Symposium on Rice Functional Genomics, Tucson, AZ (2004)

***Society
Memberships***

American Association for the Advancement of Science (AAAS)
 American Society of Plant Biologists (ASPB)
 American Society of Cell Biologists (ASCB)
 Genetics Society of America (GSA)
 International Association of Sexual Plant Reproduction Research (IASPRR)
 Society for Developmental Biology (SDB)

PROFESSIONAL ACTIVITIES: COMMUNITY, UNIVERSITY & DEPARTMENT

***STEM Education
& Retention***

Search Committee member, CALS-ASEMS Transfer Specialist (2022)
 Search Committee member, ASEMS Assistant Director for Transfer Pathways/S-STEM Project Manager (2021)
 Search Committee member, ASEMS Assistant Director/TRIO SSS STEM Director (2021)
 Faculty director/coordinator, [CALS-ASEMS](#) STEM retention program, College of Agriculture & Life Sciences (since 2018)
 Board Member (since 2009) and Head (since 2018), Arizona Science, Engineering and Mathematics Scholars ([ASEMS](#)) program, U. Arizona
 STEM Learning Center Planning Forum, Faculty participant & focus group member, VP for Research Office (2017)
 Search Committee member, Project Director TRIO SSS STEM, ASEMS Program (2015)
 Biomath Circles member, Institute for Mathematics and Education, U. Arizona (2012)
 Faculty Mentor, Arizona Science, Engineering and Mathematics Scholars ([ASEMS](#)) program, two students/semester (2011-2016)
 Faculty Instructor, Research Readiness colloquia for ASEMS students (see Instruction)
 Faculty member, U. Arizona Collaborative for Diversity in STEM. To increase the diversity of undergraduate and graduate student cohorts at U. Arizona by strengthening the recruitment and retention of minority and under-represented groups in STEM (since 2008)
 Faculty Mentor for the Western Alliance to Expand Student Opportunities/Minority Graduate Education at Mountain States Alliance (WAESO/MGE@MSA) program (2002-2006)

University

General Faculty Financial Recalibration Committee (GFFRC), advisory to Chair of Faculty and Faculty Senate (since 2023)
Research Policy Committee (RPC) member, Faculty Senate (since 2023)
RII Faculty Foresight Council (RIIFFC) member, SVP Innovation and Research (2022-2023)
Project CREAM (Culturally Responsive Engagement, Articulation, and Research) Steering Committee member (a Title III grant-funded program), Office of the Provost, Office of Societal Impact (since 2022)
Faculty Learning Community, MCB 181–Introductory Biology I, MCB Dept. (since 2022)
Committee on Academic Freedom and Tenure (CAFT) member, Faculty Senate (since 2021), Chair (since 2023)
Undergraduate Research Committee member, Office of Undergraduate Research, College of Science (2018-2020)
Open Research Task force member, Office of VP Research (2017-2018)
Faculty Senate Ad Hoc Committee on Information and Technology, member (2015-2017)
University Committee for Monitoring Labor and Human Rights Issues, member (2013-2015)
Graduate Incentives for Growth Awards (GIGA) Committee member, Graduate College (2012)
Genetics GIDP Academic Program Review (APR) Self-Study Committee member (2011)
Arizona Biological & Biomedical Sciences (ABBS) Graduate Admission Program, Steering/Executive Committee Member, representing Plant Sciences (2010-2012, since 2016)
University Committee on Ethics and Commitment (UCEC), member (2009-2010) and Chair (2010-2011)
Faculty advisor/mentor, Arizona Assurance Scholars Program (AZASSURE), 2 students per semester (2009-2011)
ADVANCE Focus Group on the Promotion & Tenure (P&T) Process, Advisory Group member (2009)
Search Committee member, Faculty Head/Director of the iPlant Collaborative (2009-2010)
iPlant Collaborative: Plant Sciences Opportunities Team member (2009-2010)
Synthesis Activities Team member, iPlant Collaborative (2008-2009)
Focus-group member, Future of Scholarly Communication, Center for Studies in Higher Education, UC Berkeley, interviews conducted at U. Arizona (2008)
Search Committee member, Community Interactions Director of the iPlant Collaborative (2007)
Undergraduate Admission Appeals Committee member (2007-2008, 2005, 2004)
Graduate College working group to recruit students from Mexico, member (2006)
Faculty Small Grants Program panel member, Office of Vice-President for Research & Graduate Studies (2005)
Minority Access to Research Careers (MARC) Selection Committee member (2005, 2002)
Undergraduate Biology Research Program (UBRP) Committee member (2003-2005).
Campus Library Council member (2001-2002)

College

CALES Faculty Advisory Committee member (since 2023)
Search Committee member, Assistant Professor of Practice in Entomology, Dept of Entomology (2022)

School of Plant Sciences (SPLS)

Peer Review Committee, Chair (since 2023), Chair/member (2021-2022, 2012-2016, 2008-2010)
Curriculum Committee, member (since 2023, 2019-2020, 2015-2016, 2010-2012).
Undergraduate Recruitment (2022-2023).
Diversity and Inclusion (previously Inclusive Excellence Committee, head (2021-2022), member (2022-2023, 2017-2018).
Seminar Committee member (2020-2022).
Academic Personnel Policies Committee (P&T/C), head (2020-2021), member (2022-2023, 2018-2019, 2011-2012).
SPLS-Strategic Priorities Faculty Initiative (SPFI) Search Committee member (2021).
SPLS-Courses Major Refresh advisory *ad hoc* committee member (2021).
Student Support Coordinator III Search Committee member (2021).
SPLS-Critical Investments Task Force member (2020).

Scholarship Committee member (2019-2020).
 Graduate Scholarship Committee member (2017-2019).
 Faculty Search Committee member, Professor of Practice in Biotechnology (2017).
 Co-Chair, Graduate Student Program Committee (and co-Director of Graduate Studies) with Shelley McMahon (2016-2019); Chair, Graduate Student Program Committee, previously Graduate Program Oversight Committee (2010-2012); Chair, Graduate Student Committee, renamed Graduate Program Oversight Committee (2003-2006).
 Website Revision Committee member (2016-2017).
 Chair, Faculty Search Committee, Asst. Professor, Systems Biology of Plant Abiotic Responses (2016-2017).
 Graduate Student Program Committee member (2019-202, 2014-2015); previously Graduate Student Committee member (2001-2003).
 Academic Program Review (APR) Committee member (2012-2013).
 Faculty Search Committee member, Asst. Professor, Computational Plant Biology, in association with iPlant Collaborative (2011).
 Chair, Interdisciplinary Plant Biology Seminar Committee (2010-2012).
 Faculty Search Committees member, Asst. Professor in Genomics of Plant-Microbe Interactions, one position, and Asst. Professor in Plant Systems Biology, two positions (2009-2010).
 Interdisciplinary Plant Biology Seminar Committee member (2007-2009, 2001-2004).
 Graduate Student Recruitment Committee member (2007-2008, 2002-2003).
 Faculty Search Committee member, Asst. Professor, Plant Biology (2004-2005).
 Advisory Committee to the Department Head member (2002-2004).

FORMAL INSTRUCTION

2023	MCB 181R–Introductory Biology I (Sec 11, 3 units), undergraduate (100%, 280 students), fall semesters.
2023, 2022	PLS/ACBS 312–Animal and Plant Genetics (4 units), undergraduate (100%, 101-112 students), Spring semesters.
2022	MCB 181R–Introductory Biology I (Sec 9, 3 units), undergraduate (100%, 228 students), fall semester.
2022	SCI 297B–Research Readiness STEM Colloquium: ASEMS-T Engineering (1 unit), undergraduate (50%, 24 students), fall semester.
2020, 2018	PLS/MCB/ECOL 440/540–Mechanisms in Plant Development (3 units), undergraduate and graduate (100%, 9 and 16 students), fall semester.
2019, 2017, 2015	PLS 560–Advanced Plant Biology (4 units), graduate (100%, 50% in 2019), fall semesters.
2013-2014	PLS/PLP/MCB 695A–Plant Sciences Journal Club (1 unit), graduate (50%, 5-15 students), co-taught, spring semesters.
2015-2016, 2011-2013	SCI 295B–Research Readiness: Arizona's Science, Engineering, and Math Scholars Program (1 unit, colloquium), undergraduate STEM majors (100%, ~25 students/sec.), fall semesters. In 2016, taught two sections each in spring and fall semesters.
2010-2013	MCB 181R–Introductory Biology I (Sec. 3/4H, 3 units), undergraduate (100%, 200-340 students), fall semesters.
2009	MCB 181R–Introductory Biology I (Sec. 5/6H, 3 units), undergraduate, taught with B.A. Larkins (25%, ~250 students), fall semester.
2009-2012	PLS/PLP 696A–Interdisciplinary Plant Sciences Seminar course (1 unit), graduate, 14 seminars/semester, coordinated and contributed discussion sessions, fall and spring semesters.
2006-2009	PLS/MCB/ECOL 440/540–Mechanisms in Plant Development (previously ‘Plant Growth & Development’, 3 units), undergraduate and graduate, taught with K.S. Schumaker (20-40 students), spring semesters 2006-09 and fall semester 2009.
2005-2006	PLS 561–Core Concepts in Plant Biology (4 units), graduate, team taught, coordinated the course and contributed lectures, spring semesters.
2004	PLS 595B–Current Topics in Plant Science—Advanced (2 units), graduate seminar, team taught, spring semester.
2002-2003	PLS 660–Core Concepts in Plant Biology (4 units), graduate, team taught, (course restructured to PLS 560/561), fall semesters.

2002	PLS/MCB/MIC 340–Introduction to Biotechnology (3 units), undergraduate (~80 students), fall semester.
2001-2005	PLS 684–Plant Development (3 units), graduate, fall semesters, alternate years.

RESEARCH MENTORSHIP & OUTREACH

Postdoctoral & Scientist Ujjal Jyoti Phukan, Ph.D. 2021-present.
Choong-Hwan Ryu, Ph.D., 2015-2022.
Guosheng Li, Ph.D., 2010-2022.
Shanshan Zhang, Ph.D., 2009-2021.
Antony Chettoor, Ph.D., 2018, visiting Postdoctoral Associate, Matthew Evans group, Plant Biology, Carnegie Institution, Palo Alto, CA.
Haijiao Wang, Ph.D., 2012-2013, visiting Postdoctoral Research Associate, Xuelu Wang group, Huazhong Agricultural U., Wuhan, China.
John D. Laurie, Ph.D., 2012 (co-advised with B.A. Larkins, Plant Sciences, U. Arizona.
Mingming Xin, Ph.D., 2011-2013 (co-advised with Xiangfeng Wang, Plant Sciences, U. Arizona.
Dhiraj Thakare, Ph.D., 2010-2014.
Il-Ho Kang, Ph.D., 2007-2008.
Changqing Zhang, Ph.D., 2006-2008.
David Hearn, Ph.D., 2006-2007.
Hayat Touchan, Ph.D., 2005-2006, sabbatical leave, Professor, Faculty of Agriculture, U. Aleppo, Aleppo, Syria.
Anantharama Rishi, Ph.D., 2004-2006.
Byeong-ha Lee, Ph.D., 2004.
Dongfang Wang, Ph.D., 2003-2008, Postdoctoral Associate; 2008, 2012, Assistant Research Scientist.

Graduate Xue Pan, since 2017, Plant Sciences Ph.D. program, U. Arizona.
Devon Leroux, visiting M.S. student, Central Michigan U. (summer 2019)
William Gurley, M.S. 2019, U. Arizona.
Matthew K. Aubert, 2018-2019, External Ph.D. degree Examiner, U. Adelaide, Australia.
Junpeng Zhan, Ph.D., 2018, U. Arizona.
Austin J. Goodyke, visiting M.S. student, Central Michigan U. (summer 2013)
Batool Hosseinpour, visiting Ph.D. student, Tehran U., Iran (2007).
Ara Ko, M.S. 2006, U. Arizona.
Sheila Marquez, M.S. 2006, U. Arizona.
Kirsten Newcomb (Wallace), M.S. 2006, U. Arizona.
Anupama Chandramouli, M.S. 2005, U. Arizona.
Daniel Coury, Ph.D. 2003, U. Arizona.

Undergraduate >40 undergraduate students have carried out independent research in my lab funded by research grants since 2001.
Visiting undergraduate researchers from New College of Florida and Central Michigan U., 4 students (summers of 2011, 2012, 2013, 2018 and 2019).
Undergraduate Research Biology Program (UBRP), 5 students (2004-2019).
Minority Health Disparities Summer Research Program, one student (2003).

K-12 & Teachers Plant Sciences Family Night, “Amazing Maize” table, outreach to primary schools, Catalina Foothills School District, Tucson, AZ (2019).
Faculty participant and presenter, Applied Career Exploration in STEM (ACES) Camp for middle school girls from under-resourced schools of Tucson, AZ, U. Arizona Campus (2018).
Faculty collaborator to develop science projects for middle school students, Cooper Center for Environmental Learning, Tucson, AZ (2015).
Faculty organizer and participant, Annual Math, Science and Technology Funfest program hosting >6000 4th-8th graders in southern Arizona, Tucson, AZ (2013, 2012, 2009, 2008).
Instructor, RNA-Interference Workshop for Teachers, Dept. Plant Sciences, a three-day workshop on genes, gene expression, and RNA interference for 18 teachers from So. AZ, U. Arizona campus (2009).

Hosted and trained two high school students from BioTech Academy, Mesa, AZ each summer for 6 weeks as part of the U. Arizona Summer of Excellence Program (2006-2007).