

CRAIG E. COLEMAN

Department of Plant and Wildlife Sciences
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Genola, Utah 84655
(801) 754-3655

EDUCATION

Ph.D. Molecular and Cell Biology, Penn State, 1992.
M.S. Genetics, Statistics Minor, Brigham Young University, 1987.
B.S. Botany, Chemistry Minor, Brigham Young University, 1985.

EMPLOYMENT

2006 – present Associate Professor, Brigham Young University, Provo, Utah
2009 (Jan-June) Visiting Professor, J. Craig Venter Institute, Rockville, Maryland
2003 (May- August) Visiting Professor, Purdue University, West Lafayette, Indiana
1996 – 2006 Assistant Professor, Brigham Young University, Provo, Utah
1992 – 1996 Postdoctoral Research Associate, Department of Plant Sciences, University of Arizona, Tucson, Arizona.
1987 – 1992 Graduate Research and Teaching Assistant, Department of Molecular and Cell Biology, Penn State, State College, Pennsylvania
1985 – 1987 Graduate Research and Teaching Assistant, Department of Botany and Range Science, Brigham Young University, Provo, Utah

FELLOWSHIPS, SCHOLARSHIPS, HONORS

Brigham Young University Fellow (John A. Widstoe), 2000 – 2002
National Institutes of Health Postdoctoral Fellow, 1993 – 1996.
Paul Berg Award, Penn State, Eberly College of Science, 1988.
Braddock Award, Penn State, Eberly College of Science, 1987.
National Science Foundation, Graduate Fellowship, Honorable Mention, 1986.

PROFESSIONAL ORGANIZATIONS

American Society of Plant Biologists
Phi Kappa Phi National Honor Society

PROFESSIONAL SERVICE

Academic Editor and Editorial Board, PLoS One, 2017 -
Organizer and Host, Western Section Meeting of the American Society of Plant Biologists, 2016
Ad Hoc Reviewer: Plant Cell, National Science Foundation: Plant Biology Program Area, PLoS ONE, BMC Genomics, International Journal of Molecular Sciences, International Journal of Plant Sciences.

Member and Reviewer, Agriculture and Food Research Initiative (AFRI-USDA): Biology of Agricultural Plants Panel, 2011

COMMUNITY SERVICE

Boy Scouts of America: District Advancement Committee (2008 – 2012), Venture Crew Advisor (2003 – 2007), Troop Committee Chair (2000 – 2004), Scoutmaster (1988 – 1990; 1996 – 2000)

Genola Volunteer Fire Department, 2003 – 2004

Member, Utah State Board of Education, 2009 – 2013

Member, Utah Rural School Association Board, 2010 – 2012

Member, Utah State Charter School Board, 2013

PEER-REVIEWED RESEARCH GRANTS

Meyer SE, Weisberg P, Allen P, Coleman CE, Hansen N. Manipulating Cheatgrass Die-off as a Tool for Fire Abatement and Sagebrush Steppe Restoration. US Forest Service National Fire Plan. 2016-2019. \$506,000.

Coleman CE, Meyer SE. Population Genetic Structure of Holmgren Milkvetch: Extant vs. Seed Increase Populations. US Fish and Wildlife Service. 2015-2017. \$25,150.

Meyer SE, Allen PS, Beckstead J, Coleman CE. Cheatgrass Stand Failure in the Great Basin: Fungal Pathogens, Carbon Dynamics, and Fungistasis. Great Basin Landscape Conservation Cooperative. 2015-2017. \$73,208

Coleman CE, Meyer SE. Developing a Novel Weapon for the War on Cheatgrass. Utah Department of Agriculture and Food. 2012 – 2013. \$20,000.

Meyer SE, Geary B, Aanderud Z, Coleman CE, Leger EA, Weisberg P, Beckstead J. Understanding the Causes and Consequences of Cheatgrass Die-offs in the Great Basin. USDI BLM Idaho and Oregon State Offices. 2011-2016. \$428,000.

Meyer SE, Beckstead J, Allen PS, Coleman CE. Enhancing the Effectiveness of Annual Grass Weed Biocontrol with the Black Fingers of Death Pathogen (*Pyrenophora semeniperda*) on Intermountain Rangelands. Joint Fire Sciences Program. 2011-2015. \$424,000

Meyer SE, Beckstead J, Allen PS, Coleman CE. Annual Brome Biocontrol after Wildfire Using a Native Fungal Seed Pathogen. Joint Fire Sciences Program. 2007-2010. \$349,165

Meyer SE, Beckstead J, Allen PS, Boose D, Coleman CE, Stevens MR. Evolutionary and Community Ecology of the *Pyrenophora semeniperda* – *Bromus tectorum* Pathosystem. USDA Competitive Research Grant. 2007-2010. \$389,179.

Nielsen BL, Coleman CE. Mitochondrial DNA Recombination Proteins in *Arabidopsis* (renewal). National Institutes of Health (General Medical Sciences). 2005-2007. \$218,250.

Fairbanks DJ, Bonifacio A, Coleman CE, Jellen EN, Maughan PJ, Stevens MR, PROINPA Foundation (several authors). Sustainable Production of Quinoa (*Chenopodium quinoa* Wild.), a Neglected Food Crop in the Andean Region. McKnight Foundation Collaborative Crop Research Program. 2006-2009. \$900,000 (renewal).

Nielsen BL, Coleman CE. Mitochondrial DNA Recombination Proteins in *Arabidopsis*. National Institutes of Health (General Medical Sciences). 2003-2005. \$140,000

Fairbanks DJ, Bonifacio A, Coleman CE, Huber CS, Jacobsen S-E, Jellen EN, Johnston P, Stevens MR. Sustainable Production of Quinoa (*Chenopodium quinoa* Wild.), a Neglected Food Crop in the Andean Region. McKnight Foundation Collaborative Crop Research Program. 2001-2005. \$880,000.

Meyer SE, Nelson DL, Fairbanks DJ, Stevens MR, Coleman CE. Ecological Genetics of Cheatgrass-Head Smut Pathosystem (renewal). USDA Competitive Research Grant. 2000-2003. \$250,000.

Meyer SE, Nelson DL, Fairbanks DJ, Coleman CE. Ecological Genetics of Cheatgrass-Head Smut Pathosystem. USDA Competitive Research Grant. 1998-2000. \$120,000.

Coleman CE. Interaction and Organization of Zeins in Maize Protein Bodies. USDA National Research Initiative Competitive Grants Program. 1997-2000. \$100,000.

OTHER RESEARCH FUNDING

Coleman CE. Fungal Control of Cheatgrass in the American West. 2018-2019. Annaley Naegle Redd Assistantship Award. \$6,000.

Coleman CE, Petersen SL. Bristlecone Pine (*Pinus longaeva*) Ecology, Conservation and Genetic Variability. 2018. Roger and Victoria Sant Foundation. \$10,000.

Coleman CE. The Cheatgrass Invasion of the North American West: An Historical Perspective Using Genetic Markers. 2012/13 Annaley Naegle Redd Assistantship Award. \$8,000.

Coleman CE. Outcrossing of Cheatgrass in the Intermountain West. 2011 Annaley Naegle Redd Assistantship Award. \$9,000.

Coleman CE. Adaptive Traits and the Invasion of *Bromus tectorum* in the Intermountain West, 2011-2012. BYU Mentoring Environment Grant. \$20,000.

Coleman CE. Genetic Variation and Adaptation in the Invasive Weed *Bromus tectorum* and its Associated Pathogens *Pyrenophora semeniperda* and *Ustilago bullata*, 2010-2011. BYU Mentoring Environment Grant. \$20,000.

Coleman CE. Prolamin Proteins of the Panacoid Cereals, 2008-2009. BYU Mentoring Environment Grant. \$20,000.

Coleman CE, Maughan PJ. A Protein Analysis of the Quinoa Core Collection in Bolivia, 2007-2008. BYU Mentoring Environment Grant. \$20,000.

Coleman CE, Jellen EN, Fairbanks DJ, Maughan PJ, Stevens MR. Molecular Biology and Genetics of *Chenopodium quinoa*, 2005. BYU Mentoring Environment Grant. \$17,000.

Coleman CE, Jellen EN, Fairbanks DJ, Maughan PJ, Stevens MR. Molecular Biology and Genetics of *Chenopodium quinoa*, 2004. BYU Mentoring Environment Grant. \$20,000.

Fairbanks DJ, Bonifacio A, Stevens MR, Jellen EN, Coleman CE, Maughan PJ. Gift from Doug Holmes Family, 2003. \$40,000.

Fairbanks DJ, Bonifacio A, Stevens MR, Jellen EN, Coleman CE, Maughan PJ. Gift from Anonymous Donor, 2003. \$40,000.

Coleman CE. Comparative Genomics and Gene Discovery in Quinoa, 2003. BYU Mentoring Environment Grant. \$17,000.

Coleman CE, Fairbanks DJ, Jellen EN, Stevens MR. Genetic Analysis and Improvement of Quinoa, 2002. BYU Mentoring Environment Grant. \$30,000.

Fairbanks DJ, Bonifacio A, Stevens MR, Jellen EN, Coleman CE, Maughan PJ. Gift from Doug Holmes Family, 2001. \$40,000.

Coleman CE, Fairbanks DJ, Jellen EN, Stevens MR, Genetic Analysis and Improvement of Quinoa, 2001. BYU Mentoring Environment Grant. \$20,000.

Coleman CE, Fairbanks DA, Jellen EN, Stevens MR. Molecular Genetic Mapping and Characterization of Quinoa, 2000-2002. John A. Widtsoe University Fellowship. \$30,000.

PEER-REVIEWED ARTICLES

Coleman CE, Meyer SE, Ricks N (2018) Mating system complexity and cryptic speciation in the seed bank pathogen *Pyrenophora semeniperda*. *Plant Pathology*, in press. <https://doi.org/10.1111/ppa.12948>

Arnesen ST, Coleman CE, Meyer SE (2017) Population genetic structure of *Bromus tectorum* in the mountains of western North America. *American Journal of Botany* 104(6):1-12. <https://doi.org/10.3732/ajb.1700038>

Merrill KR, Coleman CE, Meyer SE, Leger EA, Collins KA (2016) Development of single nucleotide polymorphism markers for *Bromus tectorum* L. (Poaceae) from a partially sequenced transcriptome. *Applications in Plant Sciences*, 4:1600068. <https://doi.org/10.3732/apps.1600068>

Beckstead J, Meyer SE, Ishizuka TS, McEvoy KM, Coleman CE (2016) Lack of host specialization on winter annual grasses in the fungal seed bank pathogen *Pyrenophora semeniperda*. *PLoS ONE* 11(3):e0151058. <https://doi.org/10.1371/journal.pone.0151058>

Meyer SE, Leger EA, Eldon DR, Coleman CE (2016) Strong genetic differentiation in the invasive annual grass *Bromus tectorum* across the Mojave–Great Basin ecological transition zone. *Biological Invasions* 18(6):1611-1628. <https://doi.org/10.1007/s10530-016-1105-6>

Soliai MM, Meyer SE, Udall JA, Elzinga DE, Hermansen RA, Bodily PM, Hart AA, Coleman CE (2014) De novo genome assembly of the fungal plant pathogen *Pyrenophora semeniperda*. *PLoS ONE* 9(1): e87045. <https://doi.org/10.1371/journal.pone.0087045>

Meyer SE, Ghimire S, Decker S, Merrill KR, Coleman CE (2013) The ghost of outcrossing past in downy brome, an inbreeding annual grass. *Journal of Heredity* 104:476-490. <https://doi.org/10.1093/jhered/est019>

Merrill KR, Meyer SE, Coleman CE (2012) Population genetic analysis of *Bromus tectorum* (Poaceae) indicates recent range expansion facilitated by specialist genotypes. *American Journal of Botany* 99:529-537. <https://doi.org/10.3732/ajb.1100085>

Kolano B, Gardunia BW, Michalska M, Bonifacio A, Fairbanks DJ, Maughan PJ, Coleman CE, Stevens MR, Jellen EN, Maluszynska J (2011) Chromosomal localization of two repetitive sequences isolated from the *Chenopodium quinoa* Willd. genome. *Genome* 54:710-717. <https://doi.org/10.1139/g11-035>

Maughan PJ, Turner TB, Coleman CE, Elzinga DB, Jellen EN, Morales JA, Udall JA, Fairbanks DJ, Bonifacio A. (2009) Characterization of *Salt Overly Sensitive 1 (SOS1)* gene homoeologs in quinoa (*Chenopodium quinoa* Willd.). *Genome* 52:647-657. <https://doi.org/10.1139/G09-041>

Balzotti MRB, Thornton JN, Maughan PJ, McClellan DA, Stevens MR, Jellen EN, Fairbanks DJ, Coleman CE (2008) Expression and evolutionary relationships of the *Chenopodium quinoa* 11S seed storage protein gene. *International Journal of Plant Sciences* 169:281-291.

<https://doi.org/10.1086/523874>

Jarvis DE, Kopp OR, Jellen EN, Mallory MA, Pattee J, Bonifacio A, Coleman CE, Stevens MR, Fairbanks DJ, Maughan PJ (2008) Simple sequence repeat development, polymorphism and genetic mapping in quinoa (*Chenopodium quinoa* Willd.). *Journal of Genetics* 87:39-51. <https://doi.org/10.1007/s12041-008-0006-6>

Christensen, SA, Pratt DB, Pratt C, Nelson PT, Stevens MR, Jellen EN, Coleman CE, Fairbanks DJ, Bonifacio A, Maughan PJ (2007) Assessment of genetic diversity in the USDA and CIP-FAO international nursery collections of quinoa (*Chenopodium quinoa* Willd.) using microsatellite markers. *Plant Genetic Resources* 5:82-95. <https://doi.org/10.1017/S1479262107672293>

Maughan PJ, Kolano B, Maluszynska J, Coles ND, Bonifacio A, Rojas Beltran J, Coleman CE, Stevens MR, Fairbanks DJ, Parkinson SE, Jellen EN (2006) Molecular and cytological characterization of ribosomal DNAs in *Chenopodium quinoa* and *Chenopodium berlandieri*. *Genome* 49:825-839. <https://doi.org/10.1139/g06-033>

Ramakrishnan AP, Meyer SE, Fairbanks DJ, Coleman CE (2006) Ecological significance of microsatellite variation in western North American populations of *Bromus tectorum*. *Plant Species Biology* 21:61-73. <https://doi.org/10.1111/j.1442-1984.2006.00152.x>

Stevens MR, Coleman CE, Parkinson SE, Zhang H-B, Balzotti MR, Kooyman D, Arumuganathan K, Bonifacio A, Fairbanks DJ, Jellen EN, Maughan PJ, Stevens JJ (2006) Construction of a quinoa (*Chenopodium quinoa* Willd.) BAC library and its use in identifying genes encoding seed storage proteins. *Theoretical and Applied Genetics* 112, 1593-1600. <https://doi.org/10.1007/s00122-006-0266-6>

Mason SL, Stevens MR, Jellen EN, Bonifacio A, Fairbanks DJ, Coleman CE, McCarty RR, Rasmussen AG, Maughan PJ (2005) Development and use of microsatellite markers for germplasm characterization in quinoa (*Chenopodium quinoa* Willd.). *Crop Science* 45:1618-1630. <https://doi.org/10.2135/cropsci2004.0295>

Coles ND, Coleman CE, Christensen SA, Jellen EN, Stevens MR, Bonifacio A, Rojas-Beltran JA, Fairbanks DJ, Maughan PJ (2005) Development and use of an expressed sequenced tag library in quinoa (*Chenopodium quinoa* Willd.) for the discovery of single nucleotide polymorphisms. *Plant Science* 168:439-447. <https://doi.org/10.1016/j.plantsci.2004.09.007>

Maughan PJ, Stevens MR, Coleman CE, Jellen EN, Fairbanks DJ, Bonifacio A, Ricks M, Jarvis D (2004) A genetic linkage map of quinoa (*Chenopodium quinoa* Willd.) based on AFLP, RAPD and SSR markers. *Theoretical and Applied Genetics* 109:1188-1195. <https://doi.org/10.1007/s00122-004-1730-9>

Bennetzen JL, Coleman CE, Liu R, Ma J, Ramakrishna W (2004) Consistent overestimation of gene number in complex plant genomes. *Current Opinion Plant Biology* 7:732-736. <https://doi.org/10.1016/j.pbi.2004.09.003>

Coleman CE, Yoho PR, Escobar S, Ogawa M (2004) The accumulation of α -zein in transgenic tobacco endosperm is stabilized by co-expression of β -zein. *Plant Cell Physiology* 45:864-871. <https://doi.org/10.1093/pcp/pch104>

Ramakrishnan AP, Meyer SE, Waters J, Stevens ML, Coleman CE, Fairbanks DE (2004) Correlation between molecular markers and adaptively significant genetic variation in

- Bromus tectorum* (Poaceae), an inbreeding annual grass. *American Journal of Botany* 91:797-803. <https://doi.org/10.3732/ajb.91.6.797>
- Ramakrishnan AP, Coleman CE, Meyer SE, Fairbanks DJ (2002) Microsatellite markers for *Bromus tectorum*. *Molecular Ecology Notes* 2:22-23. <https://doi.org/10.1046/j.1471-8286.2002.00131.x>
- Coleman CE, Clore AM, Ranch JP, Higgins R, Lopes MA, Larkins BA (1997) Expression of a mutant α -zein creates the floury-2 phenotype in transgenic maize. *Proceedings of the National Academy of Sciences USA* 94:7094-7097. <https://doi.org/10.1073/pnas.94.13.7094>
- Gillikin JW, Zhang F, Coleman CE, Bass HW, Larkins BA, Boston RS (1997) A defective signal peptide tethers the *floury2* zein to the ER membrane. *Plant Physiology* 114:345-352. <https://doi.org/10.1104/pp.114.1.345>
- Coleman CE, Herman EM, Takasaki K, Larkins BA (1996) The maize γ -zein sequesters α -zein and stabilizes its accumulation in protein bodies of transgenic tobacco endosperm. *Plant Cell* 8:2235-2245. <https://doi.org/10.1105/tpc.8.12.2335>
- Coleman CE, Lopes MA, Gillikin JW, Boston RS, Larkins BA (1995) A defective signal peptide in the maize high-lysine mutant floury-2. *Proceedings of the National Academy of Sciences USA* 92:6828-6831. <https://doi.org/10.1073/pnas.92.15.6828>
- Lopes MA, Coleman CE, Kodrzycki R, Lending CR, Larkins BA (1994) Synthesis of an unusual α -zein protein is correlated with the phenotypic effects of the *floury2* mutation in maize. *Molecular and General Genetics* 245:537-547. <https://doi.org/10.1007/BF00282216>
- Coleman CE, Kao T-h (1992) The flanking regions of two *Petunia inflata* S-alleles are heterogeneous and contain repetitive sequences. *Plant Molecular Biology* 18:725-737. <https://doi.org/10.1007/BF00020014>
- Ai Y, Singh A, Coleman CE, Ioerger TR, Kheyr-Pour A, Kao T-h (1990) Self-incompatibility in *Petunia inflata*: isolation and characterization of cDNAs encoding three S-allele-associated proteins. *Sexual Plant Reproduction* 3:130-138. <https://doi.org/10.1007/BF00198857>
- Coleman CE, Andersen WR (1986) Chloroplast ultrastructure in the desert shrub *Chrysothamnus nauseosus* ssp *albicaulis*. *Great Basin Naturalist* 46:573-576. <https://www.jstor.org/stable/41712272>

BOOK CHAPTERS

- Maughan PJ, Bonifacio A, Coleman CE, Jellen EN, Stevens MR, Fairbanks DJ (2007) Quinoa genomics. In: Kole C (ed) *Genome Mapping and Molecular Breeding, Vol 3, Pulse, Sugar and Starch Crops*. Springer-Verlag, Berlin, pp 147-157.
- Coleman CE, Larkins BA (1999) Prolamins of maize. In: Casey R, Shewry PR (eds) *Seed Proteins*, Chapman and Hall, London, pp 109-139.
- Coleman CE, Dannenhoffer JD, Larkins BA (1997) The prolamins of maize and its relatives. In: Larkins BA, Vasil IK (eds) *Cellular and Molecular Biology of Plant Seed Development*, Kluwer, Dordrecht, Netherlands, pp 257-288.

OTHER PUBLICATIONS

- Paulsen A, Coleman CE, Meyer SE, Fairbanks DJ (2000) Microsatellite markers and polymorphism in cheatgrass (*Bromus tectorum*). In: McArthur ED, Fairbanks DJ (eds)

Proceedings: Shrubland Ecosystem Genetics and Biodiversity. Proceedings RMRS-P-000. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.

Coleman CE (1997) The *fl2* gene. In: Neuffer MG, Coe EH, Wessler SR (eds) *The Mutants of Maize*. Cold Spring Harbor Laboratory Press, Plainview, NY.

Coleman CE, Larkins BA (1995) A mutant α -zein in *floury2* endosperm. *Maize Newsletter* 69:124-125.

INVITED TALKS

Coleman CE, Meyer SE, Lara D, Merrill KR. The Population Genetics of Cheatgrass Range Expansion in Western North America. January 14, 2014. Plant and Animal Genome XXII, San Diego, CA.

Coleman CE. Black Fingers of Death and the War on Cheatgrass. October 20, 2011. Brigham Young University Honors Seminar. Provo, Utah.

Coleman CE. Quinoa: Ancient grain of the Incas. March 31, 2009. Czech Institute of Experimental Botany. Prague, Czech Republic.

Coleman CE. Quinoa: Ancient grain of the Incas. March 30, 2009. Czech Institute of Biophysics. Brno, Czech Republic.

Coleman CE. The prolamins of pearl millet. February 13, 2009. Rutgers University, Piscataway, New Jersey.

Coleman CE. Progress in the development and use of genomic tools for quinoa and amaranth. January 12, 2008. Plant and Animal Genome XVI, San Diego, CA.

Coleman CE, Cannon N, Balzotti MRB, Sanchez Y, Rojas JA, Bonifacio A, Maughan PJ, Jellen EN, Stevens MR, Fairbanks DJ. Las proteínas de almacenaje de quinua. October 22, 2007. Congreso Internacional de la Quinua, Iquique, Chile.

Coleman CE. The molecular genetics of storage protein deposition in seeds. Universidad Autónoma del Estado de México. December 19, 2005, Toluca, Mexico.

Coleman CE. Progress on molecular mapping and gene identification in *Chenopodium quinoa*. 2005 Annual McKnight Foundation Workshop. November 21-22, 2005, Cochabamba, Bolivia.

Coleman CE, Bonifacio A, Christensen SA, Coles ND, Kolano BA, Maffei T, Maluszynska J, Mason SL, McCarty RR, Nelson PT, Parkinson SE, Pratt CR, Rojas Beltran J, Thompson CL, Tyler JM, Fairbanks DJ, Jellen EN, Maughan PJ, Stevens MR. Molecular genetic resources for the improvement of *Chenopodium quinoa*. REDBIO 2004: V Latin American and Caribbean Meeting on Agricultural Biotechnology, June 24, 2004, Boca Chica, Dominican Republic.

Coleman CE. Lysine, zeins and maize protein bodies. Washington State University Plant Physiology Program Seminar Series, September 19, 2003, Pullman, WA.

Coleman CE, Stevens MR, Jellen EN, Maughan PJ. Genetic research at Brigham Young University and the Bolivian Quinoa Project, Instituto de Agricultura, Universidad de San Andreas, March 24, 2003, La Paz, Bolivia.

UNDERGRADUATE HONORS THESES MENTORED

- Baxter AL (2007) The correlation between salt tolerance and allelic differences in SOS1 in Chenopodium quinoa.*
- Whipple C (2000) Creation of a mutant γ -zein and its expression in transgenic tobacco to elucidate the role of γ -zein in protein body formation in maize.*
- Eldredge S (1999) The role of transgenic research in understanding zein proteins.*

GRADUATE STUDENT THESES MENTORED

- Henry JL (2015) Mating-type locus characterization and variation in Pyrenophora semeniperda. MS Thesis.*
- Lara DR (2013) Population genetic structure of Bromus tectorum in the American desert southwest. MS Thesis.*
- Soliai MM (2011) De novo genome assembly and SNP marker development of Pyrenophora semeniperda. MS Thesis*
- Merrill KR (2011) Usage and development of molecular markers for investigation of the population and ecological genetics of Bromus tectorum L. MS Thesis*
- Cannon NS (2008) Domain duplication, Darwinian selection, and the origin of the globulin seed storage proteins. MS Thesis.*
- Ricks CB (2007) The prolamins of pearl millet. MS Thesis*
- Balzotti MRB (2006) Sequencing, expression and evolutionary relationships of the 11S seed storage protein gene in Chenopodium quinoa Willd. MS Thesis.*
- Palu AK (2003) Characterization of an opaque maize (Zea mays L.) mutant. MS Thesis.*
- Ramakrishnan AP (2002) Molecular marker variation in intermountain west populations of Bromus tectorum. MS Thesis.*

COMMITTEE ASSIGNMENTS

Department

- Department Executive Committee (2012 – present)*
- Genetics Search Committee (2011 – 2014, chair 2012 – 2014)*
- Awards Committee (2010 – present, chair 2010 – 2012)*
- Honors Coordinator (2009 – present)*
- Graduate Committee (1997 – 2010)*
- Plant Physiologist Search Committee, chair (2006 – 2007)*
- Biotechnology Degree Committee (2002)*
- Plant Anatomist Search Committee (1998)*
- Plant Biologist Search Committee (1998)*
- Professional Development Committee (1997 – 2000)*
- Curriculum Committee (1996 – 2001)*

College

- Phi Kappa Phi Honor Society College Representative (2015 - present)*
- Molecular Biology Committee (2000 – 2003)*

University

- Honors Faculty Council (2006 – 2008)*
- Pre-medical Committee (2002 – 2004)*
- Pre-dental Committee (1998 – 2000)*

TEACHING ASSIGNMENTS

Genetics (PWS 340) 41 sections, 2,737 students

Plant Cell Biology (PWS 486/586) 7 sections, 58 students

Science of Biology (PDBio 120) 8 sections, 276 students

Readings in Biotechnology (PWS 488) 8 sections, 228 students

Readings in Animal Biotechnology (PAS 487) 1 section, 11 students

Great Works and Arts Engagement (HONRS 290R) 2 sections, 34 students

Biotechnology (PWS 485) 4 sections, 36 students

Plant Development (PWS 525) 5 sections, 20 students

Cell Biology (Botany 373) 6 sections, 141 students

Cell Biology Lab (Botany 374) 6 sections, 115 students

Molecular Biology (Biol 371) 2 sections, 364 students

Introduction to Biology (Biol 100) 4 sections, 151 students