



Peter J. Maughan

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Time Allocation: Teaching + Citizenship 60%, Research 40%

SHORT BIOGRAPHY

Dr. Maughan is a Professor of Molecular Genetics at Brigham Young University (BYU). He received his Ph.D. from Virginia Polytechnic Institute and State University. Prior to coming to BYU, Dr. Maughan was the Director of the North American Genotyping for the Monsanto Company, a worldwide leader in agricultural biotechnology. He has an established research program with funding from numerous sources, including NSF, USDA, World Bank, and the McKnight Foundation. He has published >80 refereed research articles and book chapters and serves as an International Atomic Energy Agency (IAEA) mission expert for food, agriculture and biotechnology and as an associate editor for the Botanical Society of America's Applications in Plant Sciences. He was awarded the Thomas L. Martin Professorship, the Karl G. Maeser Research & Creative Arts award, the John A. Widtsoe University Fellowship as well as the College of Life Science's Excellence in Research Award in recognition of his research that enhances the quality of life and contributes to the solution of pressing world problem. His research is primarily focused on the development of genomic tools for accelerated improvement of under-utilized crops (quinoa, amaranth, etc.). These plant species are important for regional food security in several areas of modern Latin America and have recently received substantial attention as alternative food crops, especially in light of their nutritional value and tolerance to drought and salinity stress. Dr. Maughan is also recognized as an accomplished teacher, having taught genetics and genomics courses for 18 years (~8500 students) and has been awarded College of Life Science's Outstanding Teaching Award as well as the Plant and Wildlife Science's Excellence in Teaching Award.

EDUCATION

Doctor of Philosophy, Molecular Genetics, Virginia Polytechnic Institute and State University, December 1994. Dissertation: *Microsatellite Polymorphism, Orthologous Evolution and Molecular Marker Analysis of Seed Quality Traits in Soybean (Glycine max L. Merr.)*

Master of Science, Agronomy, Brigham Young University, August 1991.

Thesis: *Electrophoretic Analysis of Seed Proteins in Grain Amaranth*

Bachelor of Science, Agronomy (Crop Science), Brigham Young University, April 1990.
Minor: Chemistry

EXPERIENCE

August 2011 – present
2002-2011

Professor, Dept. of Plant and Wildlife Science, BYU
Associate Professor, Dept. of Plant and Wildlife Sciences, BYU
Awarded Continuing Faculty Status, April 2008

Sabbatical leave Summer 2006 – University of Arizona

2001-2002 Director, High Throughput Genotyping Laboratory, Monsanto Company
1998-2001 Project Leader, Technology Development, Monsanto Company
1996-1998 Post Doctoral Research Associate, Dept of Crop Science, University of Illinois
1995-1996 Post Doctoral Research Associate, Dept of Crop and Soil Env. Sci., VPI & SU

PROFESSIONAL SOCIETIES

Crop Science Society of America/American Society of Agronomy
Botanical Society of America
Genetics Society of America

HONORS AND AWARDS

Karl G. Maeser Research & Creative Arts Award, Brigham Young University, 2018
College of Life Sciences, Excellence in Research Award, Brigham Young University, 2018
Plant and Wildlife, Excellence in Teaching Award, Brigham Young University, 2018
Thomas L. Martin Professorship, Brigham Young University, 2014
Official delegate of the Utah trade commission to Perú (August 15-19, 2013)
International Atomic energy Agency (IAEA) – Missions expert for food, agriculture and biotechnology (2012-present)
College of Life Sciences, Outstanding Teaching Award, Brigham Young University, 2011
John A. Widtsoe Fellowship, Brigham Young University, 2008
Over and Beyond Award - Outstanding Project Implementation, Monsanto 2001

COMMITTEE AND PROFESSIONAL ACTIVITIES

Professional Service

Senior Associate Editor, American Journal of Botany – [Applications in Plant Sciences](#) (2011 – present)
Interview Panel participant for the FRR Bioinformatics SY Position – United States Department of Agriculture (Dec, 2020/Jan, 2021)
Organizer and Instructor, International Genomics & Bioinformatic Analysis Workshop, 2018).
International Atomic Energy Agency & Argonne National Laboratory.
Official delegate of the Utah trade commission to Perú (August 15-19, 2013)
International Atomic energy Agency (IAEA) – Missions expert for food, agriculture and biotechnology (2012-present)
NSF-PGRP (Basic Research for Enabling Agricultural Development - BREAD) – grant panel reviewer (2015)

Department

Department Genetics FTE Search Committee, Chair (2017; Frandsen)
Department Genetics FTE Search Committee, Chair (2017; Jarvis)
Professional Development/Rank Advance Committee, Chair (2017-present)
Department Professional Development Committee (2011 – 2017)
Scholarship Committee, Member (2006-present)
Department Genetics FTE Search Committee, Member (2012)
Department Executive Committee, Member (2006-2012)
Department Genetics FTE Search Committee, Member (2006)
Department Genetics and Biotech Club advisor (2005-2009)
Department Executive Committee Representative – Farm, Garden and Greenhouse Committee (2006-present)

Faculty Rev/Prof Dev/Rank Advance Committee, Member (2003-2006)
 Assessment and Curriculum Committee, Member (2003-2006)
 Farm Research Committee, Member (2003-2006)
 Genetics PWS 340 Coordinator (2003-present)
 Student Advisement – Plant Biotechnology and Biotech Business (2003-present)
 Honors Coordinator for Department of Plant and Animal Sciences (2005-2009)
 Group Coordinator/Genetics Lab Remodel – 2nd Floor WIDB (2004)

College/University

University Academic Unit Reviews Committee (2011-2017)
 University Faculty Advisory Council, FAC (Compensation and Benefits Committee; Co-Chair 2009-10; member 2010-2011)
 College Research Committee, Member (2005-2013)
 College Review Committee for ORCA Proposals, Judge (2003-2013)
 College Review Committee for MEG Proposals, Judge (2003-2013)
 College DNASC Search Committee, Member (2004)
 College Building Review Committee, Member (2010-2014)
 College Core Curriculum Committee, Member (2003)

TEACHING EXPERIENCE ([RateMyProfessor](#) & [BYU rating](#))

I am formally responsible for management and instruction of multiple sections of Genetics each semester (PWS 340). Transmission genetics is a required course for students majoring in all areas of Life Sciences, as well as those majoring in non-life science majors but who wish to attend professional schools in the medicine or dentistry. The objectives of the course are three-fold, specifically: i) illustrate the connection between modern molecular biology concepts and their basis in transmission genetics, ii) teach students to conduct genetic analysis, and iii) provide students with an intellectual resource that will assist them in their careers long after they have completed this course. I also taught sections of Genomics (PAS 265), Plant Breeding and Plant Biotechnology (PAS 485), Plant Transformation (PAS 580), Molecular Plant Breeding (PWS 559), Analysis of Complex Genomes (PWS 670), as well as Undergraduate (PWS 491R) and Graduate Seminar (PWS 694R).

Teaching Assignments (last five years):

Course ID	CrH ¹	Semester/Year	No. of Students	Composite Student Ratings (range) Out of 5 points	StCrHours ² (GPA)
PWS340-002	3	Fall 2020	133	4.6 (4.5 - 4.7)	399 (3.24)
PWS340-003	3	Fall 2020	116	4.6 (4.5 - 4.7)	348 (3.07)
PWS340-002	3	Winter 2020	187	4.8 (4.7 - 4.9)	561 (3.28)
PWS340-003	3	Winter 2020	59	4.9 (4.8 - 5.0)	177 (3.27)
PWS340-002	3	Fall 2019	181	4.8 (4.7 - 4.9)	543 (3.14)
PWS340-003	3	Fall 2019	79	4.7 (4.6 - 4.8)	237 (3.23)
PWS340-002	3	Winter 2019	173	4.7 (4.6 - 4.8)	519 (3.09)
PWS340-003	3	Winter 2019	108	4.8 (4.7 - 4.9)	324 (3.05)
PWS340-003	3	Fall 2018	163	4.7 (4.6 - 4.8)	489 (3.06)

PWS340-004	3	Fall 2018	62	4.7 (4.6 - 4.8)	186 (3.03)
PWS340-002	3	Winter 2018	180	4.7 (4.6 - 4.8)	540 (3.29)
PWS340-003	3	Winter 2018	111	4.8 (4.7 - 4.9)	333 (3.03)
PWS340-003	3	Fall 2017	71	4.7 (4.6 - 4.8)	213 (3.18)
PWS340-004	3	Fall 2017	180	4.7 (4.6 - 4.8)	540 (3.11)
PWS340-003	3	Winter 2017	181	4.7 (4.6 - 4.8)	543 (3.13)
PWS340-004	3	Winter 2017	97	4.7 (4.6 - 4.8)	291 (2.98)
PWS340-001	3	Fall 2016	197	4.7 (4.6 - 4.8)	591 (3.24)
PWS340-003	3	Fall 2016	113	4.7 (4.6 - 4.8)	339 (3.01)
PWS340-001	3	Winter 2016	82	4.6 (4.5 - 4.7)	246 (2.87)
PWS340-003	3	Winter 2016	82	4.6 (4.5 - 4.7)	246 (3.13)
PWS340-004	3	Winter 2016	60	4.8 (4.7 - 4.9)	180 (2.84)
PWS340-001	3	Fall 2015	77	4.8 (4.7 - 4.9)	231 (3.08)
PWS340-004	3	Fall 2015	82	4.7 (4.6 - 4.8)	246 (3.13)
PWS340-001	3	Winter 2015	72	4.5 (4.3 - 4.7)	216 (2.97)
PWS340-003	3	Winter 2015	81	4.7 (4.6 - 4.8)	243 (3.15)
PWS340-004	3	Winter 2015	56	4.7 (4.6 - 4.9)	168 (3.06)
Average/Total:			2488	4.71 (4.6 - 4.8)	6684 (3.08)

¹Credits hours

²Student Credit hours (Credit hours*No. of students)

SCHOLARSHIP ([Google Scholar](#))

Refereed Journal Publications: 74

- Lewis DH, Jarvis DE, Maughan PJ* (2020) SSRgenotyper: A simple sequence repeat genotyping application for whole genome resequencing and reduced representational sequencing projects. [Appl Plant Sci](#). 8(12): e11402
- Zeng X, Mishina K, Jia J, Distelfeld A, **Maughan PJ**, Kikuchi S, Sassa H, Komatsuda T (2020) The brittle rachis trait in species belonging to the Triticeae and its controlling genes Btr1 and Btr2. [Front. Plant Sci](#). 11:1000
- Hunt SP, Jarvis DE, *Larsen DJ*, Mosyakin S, Kolano BA, Jackson EW, Martin SL, Jellen EN, **Maughan PJ** (2020). A chromosome-scale assembly of the garden orach (*Atriplex hortensis* L.) genome using Oxford Nanopore sequencing. [Front. Plant Sci](#). 11:624
- Fogarty MC, Smith SM, Sheridan JL, Hu G, Islamovic E, Reid R, Jackson EW, **Maughan PJ**, Ames NP, Jellen EN, Hsieh T-F (2020). Identification of Mixed Linkage β -glucan Quantitative Trait Loci and Evaluation of CslF6 Homoeologs in Hexaploid Oat. [Crop Science:60:914-933](#) doi.org/10.1002/csc2.20015.
- Maughan PJ**, Lee R, Walstead RN, Vickerstaff RJ, Fogarty MC, Brouwer CR, Reid RR, Jay JJ, Bekele WA, Jackson EW, Tinker NA, Langdon T, Schlueter JA, Jellen EN (2019) Genomic insights from the first chromosome-scale assemblies of oat (*Avena spp.*) diploid species. [BMC Biology 17\(92\):1-19](#)
- Mangelson HH, Jarvis DE, Mollinedo P, Rollano-Penalosa OM, Palma-Encinas VD, Gomez-Pando LR, Jellen EN, **Maughan PJ** (2019) The Genome of Cañahua (Amaranthaceae): An Emerging Andean Super Grain. [Applications in Plant Sciences 7\(11\):1-12](#).
- Jellen EN, Jarvis DE, Hunt SP, Mangelson HH, **Maughan PJ** (2019) New seed collections of North American pitseed goosefoot (*Chenopodium berlandieri*) and efforts to identify its diploid ancestors

through whole-genome sequencing. *International Journal of Agricultural Sciences and Natural Resources*. *Cien. Inv. Agr.* 46(2):12-22.

- Maughan PJ**, Chaney L, Lightfoot DJ, Cox BJ, Tester M, Jellen EN, Jarvis DE (2019) Mitochondrial and chloroplast genomes provide insights into the evolutionary origins of quinoa (*Chenopodium quinoa* Willd.) [Scientific Reports 9\(1\):185](#)
- Gines M, Baldwin T, Rashid A, Bregitzer P, **Maughan PJ**, Jellen EN, Esvelt-Klos K (2018) Identification and validation of superior reference genes for barley using *in silico* analysis. [Crop Science 58:332-341](#).
- Lightfoot DJ, Jarvis DE, Ramaraj T, Lee R, Jellen EN, **Maughan PJ** (2017) Single molecule sequencing and Hi-C based proximity-guided assembly of amaranth (*Amaranthus hypochondriacus*) chromosomes provides insights into genome evolution. [BMC Biology 15:74](#)
- Metougui ML, Mokhtari M, **Maughan PJ**, Jellen EN, Benlhabib O (2017) Morphological Variability, Heritability and Correlation Studies within an Argan Tree Population (*Argania spinosa* (L.) Skeels) Preserved *in situ*. [Int. J. Agriculture and Forestry 7\(2\): 42-51](#)
- Jarvis DE, Ho YS, Lightfoot DJ, Schmöckel SM, Li B, Borm T, Ohyanagi H, Mineta K, Michell CT, Saber N, Kharbatia NM, Rupper RR, Sharp AR, Dally N, Boughton BA, Woo YH, Gao G, Schijlen E, Guo X, Momin AA, Negrão S, Al-Babili S, Gehring C, Roessner U, Jung C, Murphy K, Arold ST, Gojobori T, van der Linden G, van Loo EN, Jellen EN, **Maughan PJ**, Tester M (2017) The genome of *Chenopodium quinoa*. [Nature 1-6](#) doi:10.1038/nature21370
- Chaney L, Mangelson R, Ramaraj T, Jellen EN, **Maughan PJ** (2016) The complete chloroplast genome sequences for four *Amaranthus* species (Amaranthaceae). [Appl. Plant Sci. 4:19](#)
- Benlhabib O, Boujartani N, **Maughan PJ**, Jacobsen SE, Jellen EN (2016) Elevated genetic diversity in an F_{2:6} population of quinoa (*Chenopodium quinoa*) developed through an inter-ecotype cross. [Front. Plant Sci. 7:1222](#) doi: 10.3389/fpls.2016.01222
- Clouse JW, Adhikary D, Page JT, Ramaraj T, Deyholos MK, Udall JA, Fairbanks DJ, Jellen EN, **Maughan PJ** (2016) The Amaranth (*Amaranthus hypochondriacus*) Genome: Genome, Transcriptome and Physical Map Assembly. [Plant Genome 9\(1\):1-14](#)
- Anderson CD, Ricks NJ, Farley KM, **Maughan PJ**, Stevens MR (2016) Identification and Characterization of Microsatellite Markers in *Penstemon scariosus* (Plantaginaceae). [Appl. Plant Sci. 4\(3\):1500105](#). 2016
- Walsh BM, Adhikary D, **Maughan PJ**, Emshwiller E, Jellen EN (2015) *Chenopodium* (Amaranthaceae) polyploidy inferences from *Salt Over Sensitive 1* (*SOS1*) data. [American Journal of Botany 102\(4\):1-11](#)
- Houston DD, Mitchel KS, Clouse JW, **Maughan PJ**, Creighton JC, Smith AN, Bybee SM, Belk MC (2015) SNP development in North American burying beetles (Coleoptera: Silphidae): A tool to inform conservation decisions. *Conservation Genetics Resources* 7:349-352 doi:10.1007/s12686-015-0438-2
- Cepeda-Cornejo V, Brown DC, Palomino G, de la Cruz E, Fogarty M, **Maughan PJ**, Jellen EN (2015) Genetic variation for the Granule Bound Starch Synthase I genes (*GBSSI*) in waxy and non-waxy accessions of *Chenopodium berlandieri* ssp. *nuttaliae* from central Mexico. [Plant Genetic Resources 8\(1\): 1-11](#)
- Brown DC, Cepeda-Cornejo V, **Maughan PJ**, Jellen EN (2015) Characterization of the *Granule - Bound Starch Synthase I* Gene in *Chenopodium*. [Plant Genome 8: 1-12](#) doi: 10.3835/plantgenome.2014.09.0051
- Chatwin W, Carpenter KK, Jimenez FR, Elzinga DB, Johnson LA, **Maughan PJ*** (2014) Microsatellite primer development for post oak, *Quercus stellata* (Fagaceae). [Appl. Plant Sci. 2\(9\): 1200047](#)
- Byers C, **Maughan PJ**, Clouse J, Stewart JR (2014) Microsatellite primers in *Agave utahensis* (Agavaceae), a keystone species in the Mojave Desert and Colorado Plateau. [Appl. Plant Sci. 2\(9\): 1400047](#).

- Tinker NA, Chao S, Lazo GR, Oliver RE, Huang Y-F, Poland JA, Jellen EN, **Maughan PJ**, Kilian A, Jackson EW (2014) A SNP genotyping array for hexaploid oat (*Avena sativa* L.). [Plant Genome, 7\(3\):1-8.](#)
- Raney JA, Reynolds DJ, Elzinga DB, Page J, Udall JA, Jellen EN, Bonfaccio A, Fairbanks DJ, **Maughan PJ*** (2014) Transcriptome Analysis of Drought Induced Stress in *Chenopodium quinoa*. [Am. J. Plant Sci. 5\(3\):338-357.](#)
- Islamovic E, Obert DE, Budde AD, Schmitt M, Brunick R, Kilian A, Chao S, Lazo GR, Marshall JM, Jellen EN, **Maughan PJ**, Hu G, Klos KE, Brown RH, Jackson EW (2014) QTL of barley malting quality trait components in the 1 Stellar/01Ab8219 mapping population. [Molecular Breeding 34:59-73.](#)
- Kietlinski KD, Jimenez F, Jellen EN, **Maughan PJ**, Smith SM, Pratt DB (2014) Relationships between the Weedy (*Amaranthaceae*) and the Grain Amaranths *Crop Science* 54 (1):220-228. doi: 10.2135/cropsci2013.03.0173
- Bonnave M, Bleeckx G, Rojas Beltrán J, **Maughan PJ**, Flamand M-C, Terrazas F, Bertin P (2014) Farmers' unconscious incorporation of sexually-produced genotypes into the germplasm of a vegetatively-propagated crop (*Oxalis tuberosa* Mol.) [Genet. Resour. Crop Evol. 61:721-740.](#) doi 10.1007/s10722-013-0068-z
- Islamovic E, Obert DE, Oliver RE, Marshall JM, Miclus KJ, Hang A, Chao S, Lazo G, Harrison SA, Ibrahim A, Jellen EN, **Maughan PJ**, Brown RH, Jackson EW (2013) A new genetic linkage map of barley (*Hordeum vulgare* L.) facilitates genetic dissection of height and spike length and angle. *Field Crops Research* 154: 91-99.
- Dockter RB, Elzinga DB, Geary B, **Maughan PJ**, Johnson LA, Tumbleson D, Franke J, Dockter K, Stevens MR. (2013) Developing molecular tools and insights into the Penstemon genome using genomic reduction and next-generation sequencing. *BMC Genetics* 14(1): 1-34 doi:10.1186/1471-2156-14-66.
- Stevens MR, Dockter RB, Austin TL, Elzinga DB, Johnson LA, **Maughan PJ**, Geary BD, Tumbleson D, Franke J, Dockter K. (2013). Using SNP markers to understand phylogenetic relationships of 82 Penstemon taxa. [Report of the Intermountain Native Plants Cooperative 4: 37-44.](#)
- Oliver RE, Tinker NA, Lazo GR, Chao S, Jellen EN, Carson M, Rines HW, Obert DE, Lutz JD, Shackelford I, Korol A, Wight CP, Gardner KM, Hattori J, Beattie AD, Bjørnstad Å, Bonman JM, Jannink J-L, Sorrells M, Brown-Guedira GL, Mitchell Fetch JW, Harrison SA, Howarth CJ, Ibrahim A, Kolb FL, McMullen MS, Murphy JP, Ohm HW, Rossnagel BG, Yan W, Miclus KJ, Hiller J, **Maughan PJ**, Redman Hultz RR, Anderson JM, Islamovic E, Jackson EW (2013) SNP discovery and chromosome anchoring provide the first physically-anchored hexaploid oat map and reveal synteny with model species. *PLoS ONE* 8(3):1-12 (e58068).
- Jimenez FR, **Maughan PJ**, Alvarez A, Kietlinski KD, Smith SM, Pratt DB, Elzinga DB, Jellen EN (2013) Assessment of genetic diversity in Peruvian amaranth (*Amaranthus caudatus* L. and *A. hybridus* L.) germplasm using SNP markers. *Crop Science* 53:532-541
- Houston DD, Elzinga DB, **Maughan PJ**, Smith SM, Kauwe JSK, Evans RP, Stinger RB, Shiozawa DK (2012). Single nucleotide polymorphism discovery in cutthroat trout subspecies using genome reduction, barcoding, and 454 pyro-sequencing. *BMC Genomics* 3:724
- Fairbanks DJ, Fairbanks AD, Ogden HT, Parker GJ, **Maughan PJ*** (2012) NANOGP8: Evolution of a Human-Specific Retro-oncogene. *G3: Genes, Genomes, Genetics* 2(11): 1447-1457
- Parra-Gonzalez LB, Aravena-Abarzúa GA, Navarro-Navarro CS, Udall JA, **Maughan PJ**, Peterson LM, Salvo-Garrido HE, Maureira-Butler IJ (2012) Yellow lupin (*Lupinus luteus* L.) transcriptome sequencing: molecular marker development and comparative studies. *BMC Genomics* 2012, 13:425 doi:10.1186/1471-2164-13-425
- Maughan PJ***, Smith SM, Rojas-Beltrán JA, Elzinga D, Raney JA, Jellen EN, Bonifacio A, Udall JA, Fairbanks DJ (2012) Single nucleotide polymorphisms identification, characterization and linkage mapping in *Chenopodium quinoa*. *Plant Genome* 5(3) 114-125. doi: 10.3835/plantgenome2012.06.0011

- Maughan PJ***, **Smith SM**, **Raney JA** (2012) Utilization of Super BAC Pools and Fluidigm Access Array Platform for High-Throughput BAC Clone Identification – Proof of Concept. *J Biomed Biotechnol.* doi:10.1155/2012/405940
- Byers RL**, **Harker DB**, **Yourstone SM**, **Maughan PJ**, **Udall JA** (2012) Development and Mapping of SNP Assays in Allotetraploid Cotton. *Theor. Appl. Genet.* 124 (7) 1201-1214
- Cronn R**, **Knaus B**, **Liston A**, **Maughan PJ**, **Parks M**, **Syring J**, **Udall J** (2012) Targeted enrichment strategies for Next-Generation plant biology. *Am. J. Bot.* 99(2): 1–22.
- Morales AJ**, **Bajgain P**, **Garver Z**, **Maughan PJ**, **Udall JA** (2011) Evaluation of the physiological responses of *Chenopodium quinoa* to salt stress. *Int. J. Plant Physiol. Biochem.* 3(13): 219-232
- Oliver RE**, **Jellen EN**, **Ladizinsky G**, **Korol AB**, **Kilian A**, **Beard JL**, **Dumlupinar Z**, **Wisniewski Morehead NH**, **Svedin E**, **Coon M**, **Redman R**, **Maughan PJ**, **Obert DE**, **Jackson EW** (2011) New DArT markers for tetraploid oat (*Avena magna* Murphy et Terrell) provide the first complete linkage map and markers linked to domestication genes from hexaploid *A. sativa* L. *Theor. Appl. Genet.* 123(7): 1159-1171
- Kolano B**, **Gardunia BW**, **Michalska M**, **Bonifacio A**, **Fairbanks D**, **Maughan PJ**, **Coleman CE**, **Stevens MR**, **Jellen EN**, **Maluszynska J** (2011) Chromosomal localization of two novel repetitive sequences isolated from the *Chenopodium quinoa* Willd. *Genome.* *Genome* 54: 710-717
- Maughan PJ***, **Smith SM**, **Jellen EN**, **Fairbanks DF** (2011) Development, characterization and linkage mapping of single nucleotide polymorphisms in the grain amaranths (*Amaranthus* sp.). *Plant Genome* 4:1-10.
- Oliver RE**, **Lazo GR**, **Lutz JD**, **Rubenfield MJ**, **Tinker NA**, **Wisniewski Morehead NH**, **Adhikary D**, **Jellen EN**, **Maughan PJ**, **Anderson JM**, **Brown Guedira GL**, **Chao S**, **Beattie AD**, **Carson ML**, **Rines, HW**, **Obert DE**, **Bonman JM**, **Jackson EW** (2011) Model SNP Development for Complex Genomes Based on Hexaploid Oat Using High-Throughput 454 Sequencing Technology. *BMC Genomics* 12:77 doi:10.1186/1471-2164-12-77
- Vargas A**, **Elzinga DB**, **Rojas-Beltran JA**, **Bonifacio A**, **Geary B**, **Stevens MR**, **Jellen EN**, **Maughan PJ*** (2011) Development and use of microsatellite markers for genetic diversity analysis of cañahua (*Chenopodium pallidicaule* Aellen) *Genet. Resour. Crop Evol.* 58:727-739
- Maughan PJ***, **Yourstone SM**, **Byers RL**, **Smith S**, **Udall JA** (2010) SNP genotyping in mapping populations via genomic reduction and next-generation sequencing: Proof-of-concept. *Plant Genome* 3:166-178
- Maughan PJ***, **Yourstone SM**, **Jellen EN**, **Udall, JA.** (2009) SNP discovery via genomic reduction, barcoding and 454-Pyrosequencing in amaranth. *Plant Genome* 2: 260-270
- Maughan PJ***, **Turner TB**, **Coleman CE**, **Elzinga DB**, **Jellen EN**, **Morales JA**, **Udall JA**, **Fairbanks DJ**, **Bonifacio A** (2009) Characterization of salt overly sensitive (*SOS1*) gene homoeologs in quinoa (*Chenopodium quinoa* Willd). *Genome* 52:647–657
- Fuentes FF**, **Martinez EA**, **Hinrichsen PV**, **Jellen EN**, **Maughan PJ*** (2009) Assessment of genetic diversity patterns in Chilean quinoa (*Chenopodium quinoa* Willd.) germplasm using multiplex fluorescent microsatellite markers. *Conserv. Genet.* 10:369-377
- Mallory MA**, **Pratt DB**, **Vivas R**, **Jellen EN**, **Maughan PJ*** (2008) Development and characterization of microsatellite markers for the grain amaranths (*Amaranthus* spp. L.). *Crop Sci.* 48:1098-1106
- 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.). *J. Genetics* 87:39-51
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- Maughan PJ***, **Sisneros N**, **Luo M**, **Kudrna D**, **Ammiraju JSS**, **Wing RA** (2008) Construction of an amaranth (*Amaranthus hypochondriacus*) bacterial artificial chromosome library and genomic sequencing of herbicide target genes. *Crop Sci.* 48:S-85-94

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- Maughan PJ***, Kolano BA, Maluszynska J, *Coles* ND, Bonifacio A, Rojas 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
- Stevens MR, Coleman CE, Parkinson SE, **Maughan PJ**, Zhang H.-B, Balzotti MR, Kooyman DL, Arumuganathan K, Bonifacio A, Fairbanks DJ, Jellen EN, Stevens JJ (2006) Construction of a quinoa (*Chenopodium quinoa* Willd.) BAC library and its use in identifying genes encoding seed storage proteins. *Theor. Appl. Genet.* 112:1593-1600
- Fairbanks DJ, **Maughan PJ** (2006) Evolution of the *NANOG* pseudogene family in the human and chimpanzee genomes. *BMC Evol. Biol.* 6:12
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- Maughan PJ**, Saghai Maroof MA, Buss GR (1996) Molecular-marker analysis of seed-weight: genomic locations, gene action and evidence for orthologous evolution among three legume species. *Theor. Appl. Genet.* 93:574-579
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- *Submitting and corresponding author*

Invited Book Chapters: 13

- Jellen EN, Jarvis DE, Benet-Pierce N, **Maughan PJ** (2021) Botanical Context for Domestication in North America. In: Compendium Plant Genomes, Sandra Schmoeckel (Eds): The Quinoa Genome. 3:1-26
- Murphy KM, Matanguihan JB, Fuentes FF, Gomez-Pando LR, Jellen EN, **Maughan PJ**, Jarvis DE (2018) Quinoa Breeding and Genomics. In: Irwin Goldman (ed) Plant Breeding Reviews. 42:257-308.
- Jellen EN, Jackson EW, **Maughan PJ** (2016) Oat Improvement and Innovation Using Wild Genetic Resources (Poaceae, *Avena* spp.): Elevating “Oats” to a New Level and Stature. In: AS Mason (ed) Polyploidy and interspecific hybridization for crop improvement. CRC Press. Boca Raton, FL. Pp 364-376. Doi: 10.1201/9781315369259-15
- Matanguihan JB, **Maughan PJ**, Jellen EN, Kolano B (2015). Quinoa Cytogenetics, Molecular Genetics, and Diversity. In Kevin Murphy and Janet Matanguihan (eds). [Quinoa: Improvement and Sustainable Production. John Wiley & Sons, Inc.](#)
- Maughan PJ***, Udall JA, Jellen EN (2015) Genomic reduction assisted single nucleotide polymorphism discovery using 454-Pyrosequencing. In: J. Batley (ed). Plant Genotyping. [Methods in Molecular Biology, Humana Press, Totowa, NJ. Vol. 1245. pp. 169-182](#)
- Smith SM, Maughan PJ*** (2015) SNP Genotyping using the KASPar™ Assay. In: J. Batley (ed). Plant Genotyping. [Methods in Molecular Biology, Humana Press, Totowa, NJ. Vol. 1245. pp. 243-256](#)
- Jellen EN, **Maughan PJ**, Fuentes F, Kolano BA (2014) Botany, Phylogeny and Evolution (Botánica, Filogenia y Evolución). In: D. Bazile and T. Santivañez (eds), [The 2013 state of the world's quinoa](#) (Estado del arte de la quinua en el mundo en 2013). FAO (Santiago de Chile) y CIRAD, (Montpellier, Francia), pp. 26-39
- Maughan PJ**, Jellen EN, Raney JA (2014) Quinoa Molecular and Genomic Tools (Herramientas Moleculares y Genómicas para la Quinoa). In: D. Bazile and T. Santivañez (eds), [The 2013 state of the world's quinoa](#) (Estado del arte de la quinua en el mundo en 2013). FAO (Santiago de Chile) y CIRAD, (Montpellier, Francia), pp. 40-46
- Jellen EN, **Maughan PJ**, Bertero D, Munir H (2013) Prospects for Quinoa (*Chenopodium quinoa* Willd.) Improvement Through Biotechnology. In: SM Jain and SD Gupta (eds) Biotechnology of neglected and underutilized crops VIII, Spinger. pp. 173-201 ISBN 978-94-007-5499-7
- Jellen EN, Sederberg MC, Kolano BA, Bonifacio A, **Maughan PJ** (2011) Chenopodium. In: C Kole (ed) Wild Crop Relatives: Genomic and Breeding Resources. Legume Crops and Forages. Springer-Verlag, Berlin Heidelberg. pp. 35-61
- Fuentes FF, **Maughan PJ**, Jellen EN (2009). Diversidad genética y recursos genéticos para el mejoramiento de la quinua (*Chenopodium quinoa* Willd) In. Revista Geográfica de Valparaíso. N° 42 / 2009 pp. 20-33. ISSN 0716 – 1905
- Hittalmani S, Girish TN, Biradar H, **Maughan PJ***, (2008) Development of mapping populations: Descriptions and implications. In: C Kole (ed) Principles and Practices of Plant Molecular Mapping and Breeding. Springer Verlag, Berlin Heidelberg. pp. 69-91
- Maughan PJ***, Bonifacio A, Jellen EN, Coleman CE, Stevens MR, Fairbanks DJ (2007) Quinoa genomics. In: C Kole (ed) Genome Mapping and Molecular Breeding. Volume 3. Pulse, Sugar and Starch Crops. Springer Verlag, Berlin Heidelberg. pp.147-157
- *Submitting and corresponding author*

Invited Scholarly Presentations and News Articles:

- Maughan PJ** (2020) – Keynote speaker. A Highly Contiguous Reference Genome for Cheatgrass (*Bromus tectorum*). DoveTail Genomics - Advances in De Novo Genome Assembly with Dovetail Genomics – Methods, Applications, and Some Pretty Cool Science! Plant and Animal Genome XXVIII Conference, January 14, San Diego, CA
- Maughan PJ** (2019) – Invited Speaker. Genome Assembly and Phylogenomics in Diploid Avena Species. Oats, Wild and Cultivated Workshop. Plant and Animal Genome XXVII Conference, January 12, San Diego, CA
- Maughan PJ** (2019) – Keynote speaker. Identificación de líneas con Resistencia genética al mildiu en poblaciones obtenidas por inducción de mutaciones y en el germplasma colectado en Perú para un a producción con enfoque orgánico y sostenible del cultivo de quinua. Contrato N 014-2015-INIA-PNIA/UPMSI/IE. Universidad Agraria La Molina. August 22nd, Lima, Peru
- Maughan PJ** (2018) – Keynote speaker. Secuenciación del genoma del amaranto (*Amaranthus hypochondriacus*) y su información sobre la evolución del genoma (2018). La Biotecnología y el mejoramiento genético de granos andinos. Facultad de Agronomía – Universidad Agraria La Molina. January 26th, Lima, Peru
- Maughan PJ** (2018) – A Reference-Quality Assembly and Annotation of the *Avena atlantica* Genome. Plant and Animal Genome XXVI Conference, Oat Workshop, January 12-16, San Diego, CA
- Maughan PJ** (2017) – Plenary Speaker. The Quinoa Genome. VI Congreso Mundial de la Quinoa; III Simposio Internacional de Granos Andinos. March 21-24th, Puno, Peru
- Maughan PJ** (2017) – Invited Speaker. The Amaranth Genome and what it tells us. VI Congreso Mundial de la Quinoa; III Simposio Internacional de Granos Andinos. March 21-24th, Puno, Peru
- Maughan PJ** (2017) – Invited Speaker. The War on GMOs: Is Science in Service of Politics, Profits, or Plenty? Life, the Universe and Everything Conference. Feb. 16, 2017, Provo, Utah.
- Maughan PJ et al.** (2017) - Deseret News (Salt Lake City, Utah). Major breakthrough by BYU 'orphaned crops lab' published in 'Nature'. <http://www.deseretnews.com/article/865673098/?user=app>
- Maughan PJ et al.** (2017) - Fox News13 at Nine (Salt Lake City, Utah). Newstory regarding Quinoa genome sequence published in Nature. <http://mms.tveyes.com/Transcript.asp?StationID=2100&DateTime=2%2F8%2F2017+9%3A47%3A57+PM&Term=BYU&PlayClip=TRUE>
- Maughan PJ** (2017) BBC World service News hour. Could 'mapping' quinoa help feed the world's growing population? <http://www.bbc.co.uk/programmes/p04s9xyx>
- Maughan PJ, Jellen EN** (2017) KSL.com - BYU professors, students work to fight world hunger with unique grain. http://www.ksl.com/?sid=43124082&nid=1012&utm_content=buffera38fb&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer
- Maughan PJ et al.** (2017) PacBio and Hi-C Based Proximity-Guided Assembly of Amaranth Pseudo Chromosomes. Plant and Animal Genome XXV Conference, January 15, San Diego, CA (Oral/Poster presentation).
- Maughan PJ et al.** (2016) Plenary Speaker. PacBio and Hi-C based proximity-guided assembly of Amaranth pseudo chromosomes. Quinoa For Future Food and Nutrition Security in Marginal Environments. December 4-9th, Dubai, UAE.
- Maughan PJ et al.** (2016) Plenary Speaker. Advances in amaranth genomics. The 2016 Amaranth Institute Conference. August 3-5th, Tennessee State University, Nashville, TN
- Maughan PJ et al.** (2016) Invited Speaker. Amaranth/Kiwicha, Cañihua y Quinoa. Genomas, transcriptomas y mapas físicos. IX Conferencia de la Red Latinoamericana y del Caribe de Biotecnología Agropecuaria y Forestal (REDBIO). June 27 – July 1, Lima, Miraflores, Peru

- Maughan PJ** (2016) Invited Speaker. Fact and Fiction: GMO Foods. June 7, 2016. Family & Consumer Sciences Education, Summer Food Science and Nutrition Conference, Saratoga Springs, Utah
- Maughan PJ et al.** (2016) Invited Speaker. *Chenopodium quinoa*: genome assembly, annotation and gene discovery. American Society of Plant Biologist – Western Section Meeting. May 19-20, Brigham Young University, Provo, Utah
- Maughan PJ** (2016) Invited Speaker. Film Festival: The Mother Grain. King Abdullah University of Science & Technology (KAUST). January 15-20th. Thwall, Saudi Arabia.
- Maughan PJ, et al.** (2015) Towards a finished reference genome sequence of amaranth: an emerging C4 pseudo - cereal grain crop. May 4-7, 2015. International Symposium on Protein Crops. V Meeting AEL. Plant Proteins for the Future. Pontevedra, Spain.
- Maughan PJ, et al.** (2015) Genome Assembly of *Amaranthus hypochondriacus*: An Emerging C4 Pseudo - Cereal Grain Crop. February 24, 2015, Utah Plant Genetics Conference, Aspen Grove, Utah.
- Maughan PJ, et al.** (2014) Interview “Our Sacred Stewardship”, Monte L. Bean Life Science Museum, <http://mlbean.byu.edu/Education/Videos/AllVideos/Stewardship.aspx>.
- Maughan PJ, Jellen EN** (2014) BYU’s quinoa project. La culture du quinoa au Maroc, vers une agriculture durable. La Société Moarocaine d’Agronomie et d’horticulture (SMAHo), May 7, 2014, IAV Hassan II, Rabat, Morocco.
- Maughan PJ, Jellen EN** (2014) Letter from Bolivia, “The Quinoa Quarrel, Who owns the world’s greatest superfood? Interviewed by Lisa M. Hamilton, Harper's Magazine, May 2014, pg. 35-42.
- Maughan PJ** (2014) Panelist. The future of food. Planet Earth Panel Series. February 13, 2014. The Wall, Provo, Utah
- Maughan PJ** (2013) Invited speaker. Understanding the amaranth and quinoa genomes. I Congreso Científico Internacional de la Quinoa y Granos Andinos. November 14, 2013. Universidad Nacional Agraria La Molina, Lima, Peru.
- Maughan PJ** (2013) Invited speaker. Genetic resources for the study of Orphaned Andean Crops – Amaranth and Quinoa. Department of Plant, Soils & Climate, Utah State University. Seminar Series. September 23, 2013. Logan, Utah.
- Maughan PJ** (2013) Invited speaker. Leveraging Genomics for Plant Improvement. IV Congreso Internacional de manejo de pastizales y simposio en innovación tecnológica en the la producción pecuaria. September 3-6, 2013. Colegio de Postgraduados, Montecillo, Mexico.
- Maughan PJ** (2013) All things considered – National Public Radio (NPR). [Can Quinoa Farming Go Global Without Leaving Andeans Behind?](#) August 15, 2013. Interviewed for broadcast.
- Maughan PJ** (2013) Invited speaker. Genomic Resources for *Chenopodium quinoa*. International Quinoa Research Symposium. August 11, 2013. Pullman, Washington.
- Maughan PJ** (2013) The Morning Show with Marcus Smith – BYU Radio (Sirius XM, Channel 143). Genetically modified organisms (GMOs) - benefits and risks associated with genetically modified seeds and foods. June 6, 2013. Brigham Young University, Provo, Utah.
- Maughan PJ** (2013) Invited speaker. Experts Mission – Review team, International Atomic Energy Agency. Avances en el mejoramiento genético de plantas frente al cambio climático. Genética de la resistencia a estreses abióticos. April 27 – May 5, 2013. Lima, Peru.
- Maughan PJ** (2013) Invited speaker. Genetically Modified Organisms (GMO) - “Fact vs. Fiction”. American Association of Candy Technologists, Utah Food & Candy Expo. April 9, 2013. Sandy, Utah.
- Maughan PJ** (2013) Invited speaker. Experts Mission, International Atomic Energy Agency. Tecnicas Modernas de Caracterizacion Molecular. Curso Internacional de Caracterizacion de Germoplasma native Y Elaboracion de Descriptores. February 17 – February 22, 2013. Texcoco, Mexico.
- Maughan PJ** (2012) Invited speaker. Symposium - Harvesting Domesticated and Wild Genomes for Genes for Crop Improvement. October 24, 2012. ASA, CSSA and SSSA International Annual Meetings. Cincinnati, Ohio.
- Maughan PJ** (2012) Invited speaker. Wild and Forgotten: Conservation, Characterization, and Utilization of Orphan Crops and Wild Relatives. April 13, 2012. Cornell University, Ithaca, New York.

- Maughan PJ** (2012) Invited speaker. High-Throughput SNP Identification and Genotyping in Species with Limited Economic Resources. Utah Plant Genetics Conference. February 28, 2012. Aspen Grove, Utah.
- Maughan PJ** (2012) Invited speaker. Experts Mission, International Atomic Energy Agency. Aplicación de Herramientas de Marcadores Moleculares en la Detección de Variabilidad. Curso Internacional de actualización fitomejoramiento por mutagenesis asistida por marcadores moleculares. January 30 – February 3, 2012. Texcoco, Mexico.
- Maughan PJ** (2012) Invited speaker. Utilization of the Fluidigm Integrated Fluidic Chip (IFC) for SNPs Genotyping and BAC Clone Identification in *Amaranthus*. Weedy and Invasive Plant Genomics Workshop. Plant and Animal Genome XX Conference, January 17, 2012, San Diego, California.
- Maughan PJ** (2011) Invited speaker. The Genetic Basis for Salt Tolerance in Plants. Curso Teórico – Practico: Evaluación de la Tolerancia a Factores Abióticos. April 25-26, 2011, Universidad Nacional Agraria de La Molina, Lima, Peru.
- Maughan PJ** (2011) Invited speaker. High Throughput SNP Identification and Genotyping in Species with Limited Economic Resources. Fluidigm Technology Workshop, Plant and Animal Genome XIX Conference, January 15-19, 2011, San Diego, California.
- Maughan PJ** (2010) Invited speaker. Genomic tools for Andean crop species. Instituto Nacional de Tecnología Agropecuaria, Instituto de Recursos Biológicos, Buenos Aires, Argentina.
- Maughan PJ** (2010) Invited speaker. Genomic reduction, barcoding and 454-pyrosequencing. Plant Biotechnology Unit, INIA Carillanca, Agri aquaculture Nutritional Genomics Center, Temuco, Chile.
- Maughan PJ** (2010) Invited speaker. Development of molecular markers in Oca (*Oxalis tuberosa*) using 454-pyrosequencing. PROINPA, Cochabamba, Bolivia.
- Maughan PJ, Yourstone S, Jellen EN, Udall, JA** (2010) Invited speaker. SNP discovery via genomic reduction, barcoding and 454-pyrosequencing in amaranth. Plant and Animal Genome XVII Conference, San Diego, California.
- Maughan PJ** (2009) Invited speaker. Development of single nucleotide polymorphism (SNPs) markers in amaranth using 454-pyrosequencing and MID-barcoding. Universidad Autónoma del Estado de México, Toluca, Mexico.
- Maughan PJ** (2009) Invited speaker. Development and utilization of genomic tools for the improvement of the Andean crop species quinoa and amaranth, Universidad Nacional Agraria de La Molina, Lima, Peru.
- Maughan PJ and Jellen EN** (2009) Invited panel member – Thinking aloud broadcast – KBYU Classical 89. Plant Genetics and Quinoa. Brigham Young University, Provo, Utah.
- Maughan PJ** (2008) Invited speaker. Presented 5-day workshop entitled “Marker assisted selection in *C. quinoa*”. Universidad Mayor de San Simón, Cochabamba, Bolivia.
- Maughan PJ** (2008) Invited speaker. Pangenesis, Eugenics and More. House of Learning Lectures. Harold B. Lee Library. Brigham Young University, Provo, Utah.
- Maughan PJ** (2007) Invited speaker. Development and application of molecular tools for the improvement of Andean pseudo-cereal crops (Quinoa and Amaranth). Michigan State University Seminar Series: Use of Wild Germplasm in Crop Improvement. December 13-15, Lansing, Michigan.
- Maughan PJ** (2007) Invited speaker. Development of molecular tools for understanding the amaranth genome - Molecular markers and BAC library development. Plant and Animal Genome XV Conference, January 13-17, 2007, San Diego, California.
- Maughan PJ** (2007) Invited speaker. Aplicación de técnicas moleculares en programas de mejoramiento genético de especies subutilizadas. Centro de Genómica Nutricional Agro-acuícola, INIA Carillanca, Temuco, Chile.
- Maughan PJ** (2007). Invited speaker. Genetic tools for quinoa (*Chenopodium quinoa*). INIAP, Estación Santa Catalina, Quito, Ecuador.
- Maughan PJ** (2006). Invited speaker. Presented 5-day workshop entitled “Application of genetic markers to plant breeding (30 students). Universidad Arturo Prat, Iquique, Chile.

- Maughan PJ, Jellen EN (2005)** Successful undergraduate mentoring at BYU. Faculty Development Series. Brigham Young University, Provo, Utah.
- Maughan PJ (2005)**. Invited speaker. Molecular and cytological characterization of rDNA in *Chenopodium quinoa* and *C. berlandieri*. Plant and Animal Science Graduate Seminar Series, Brigham Young University, Provo Utah.
- Maughan PJ (2005)** Invited speaker. Aplicación de técnicas moleculares en Programas de Mejoramiento Genético de Especies Subutilizadas. Universidad Autonoma Del Estado de Mexico, Toluca, Mexico.
- Maughan PJ (2005)** Invited speaker. Progress towards understanding the quinoa genome (*Chenopodium quinoa*). Universidad Arturo Pratt, Iquique, Chile.
- Maughan PJ (2005)** Invited speaker. Biología molecular y mejoramiento de la quínoa (*Chenopodium quinoa*). Universidad Central, Quito, Ecuador.
- Maughan PJ, Jellen EN (2004)** Successful undergraduate mentoring at BYU. Faculty Development Series. Brigham Young University, Provo, Utah.
- Maughan PJ (2004)** Invited speaker. Biotechnology application to under-researched crop systems. Indiana University, New Albany, Indiana.
- Maughan PJ (2004)** Invited speaker. Progress towards understanding the *Chenopodium quinoa* genome: An update. Plant and Animal Genome XII, San Diego, California.
- Maughan PJ (2003)** Invited speaker. High-throughput genetic analysis: Practical considerations. Tomato Breeders Roundtable. Park City, Utah.
- Maughan PJ (2003)** Invited speaker. Genetic research at BYU and the Bolivian quinoa project. Instituto de agricultura, Universidad de San Andreas, La Paz, Bolivia.
- Maughan PJ (2002)** Invited speaker. Molecular Breeding - Convergence of molecular biology and plant breeding in a corporate setting. Brigham Young University, Provo, Utah.
- Maughan PJ (2001)** Invited speaker. Understanding biotechnology. 23rd Annual Symposium of Seed Technology. Iowa State University, Ames, Iowa.
- Maughan PJ (1996)** Invited speaker. Amplified fragment length polymorphism (AFLP) analysis of disease resistance genes in soybean. Symposium of Molecular Cell Biology and Biotechnology. Virginia Polytechnic Institute and State University, Blacksburg, Virginia.

Published Abstracts (since appointment in 2002):

- Bushman, S, Robbins M, **Maughan PJ (2020)** CLR and CCS based assemblies in polyploid grasses: *Poa pratensis* and *Poa annua*. SMRT Sequencing - Empowering Scientists with Highly Accurate Long Reads. PacBio Virtual Seminar, December 11, 2020
- Rey E, Jarvis DE, **Maughan PJ**, Maumus F, Tester M (2020) Understanding the Past to Build the Future: On the Structure and Evolution of the Quinoa Genome. International Quinoa International Quinoa Research Symposium / Simposio Internacional de Investigación de Quínoa. August 17-19, 2020
- Whipple C, **Maughan PJ**, Jarvis DE, Mosquera V, DeTemple J (2020) Developing Genomic and Genetic Resources for a Novel Evo-Devo Model in *Gilia* (Polemoniaceae). Virtual Botany Conference 2020 Evolutionary Developmental Biology (Evo-Devo). July 27-31, 2020 (Oral Presentation)
- Christensen LK, **Maughan PJ**, Jellen EN, Jarvis DE. (2020) Genome Wide Association Study of Quinoa. Plant and Animal Genome XXVIII Conference, January 14, San Diego, CA (Poster presentation)
- Miller BE, Cox BJ, **Maughan PJ**, Jellen EN & Jarvis DE (2020). Developing a Mutant Quinoa Population. Plant and Animal Genome XXVIII Conference, January 14, San Diego, CA (Poster presentation)
- Cox B, **Maughan PJ**, Jellen EN, Jarvis DE (2020). Developing an EMS Quinoa Population. Plant and Animal Genome XXVIII Conference, January 14, San Diego, CA (Oral presentation)
- Kerby TJ, **Maughan PJ**, Jellen EN, Jarvis DE (2020). The *C. berlandieri* Genome. Plant and Animal Genome XXVIII Conference, January 14, San Diego, CA (Oral presentation)

- Lewis DH, **Maughan** PJ, Jarvis DE (2020). SSRgenotyper. Rapid and Direct SSR Genotyping for WGS data. Plant and Animal Genome XXVIII Conference, January 14, San Diego, CA (Poster presentation)
- Jellen EN, **Maughan** PJ (2020). Toward the World's Most Interesting Pan Genome. Plant and Animal Genome XXVIII Conference, January 14, San Diego, CA (Oral presentation)
- Coleman CE, *Machado DD*, Burke IC, Revolinski S, **Maughan** PJ (2020) Assembly and Annotation of the Cheatgrass (*Bromus tectorum*) Genome. Plant and Animal Genome XXVIII Conference, January 14, San Diego, CA (Poster presentation)
- Cox BJ, Jellen EN, **Maughan** PJ, Jarvis DE (2019) Whole exome capture and NGS for mutation detection in *Chenopodium quinoa* EMS populations. Crops, Huntsville, AL (Poster presentation)
- Hunt SP, Jellen EN, Jarvis DE, **Maughan** PJ (2019) Development of Genetic and Genomic Resources for *Atriplex hortensis*. Plant and Animal Genome XXVII Conference, January 11-15, San Diego, CA (Oral presentation)
- Hansen HM, Jarvis DE, Jellen EN, Gomez L, Deza P, Raymond B, Murphy K, **Maughan** PJ (2019) A PacBio and Hi-C Based Proximity-Guided Assembly of *C. pallidicaule*. Plant and Animal Genome XXVII Conference, January 11-15, San Diego, CA (Oral presentation)
- Hansen HM, Jarvis DE, Jellen EN, Gomez L, Deza P, Raymond B, Murphy K, **Maughan** PJ (2019) Genome-Wide Association Study for Agronomic Quality Traits in *C. quinoa* Plant and Animal Genome XXVII Conference, January 11-15, San Diego, CA (Poster presentation)
- Jarvis DE, **Maughan** PJ, Jellen EN, Tester M (2018) An Updated Chromosome-Scale Assembly of Quinoa using Hi-C. 13th Annual Sequencing, Finishing, and Analysis in the Future (SFAF) Meeting, May 21-24, Santa Fe, NM (Poster presentation)
- Jarvis DE, **Maughan** PJ, Jellen EN, Tester M (2018) An Updated Chromosome-Scale Assembly of Quinoa using Hi-C. Quinoa and related species workshop. Plant and Animal Genome XXVI Conference, January 12-16, San Diego, CA (Oral presentation)
- Walstead R, Whaley A, Reid R, Jay JJ, Lee R, Waters M, Keikus G, Sebra R, Langdon T, Vallejo V, Jellen EN, **Maughan** PJ, Brouwer C, Schlueter J (2018) Assembly and Anotation of the Hexaploid Oat genome. Plant and Animal Genome XXVI Conference, January 12-16, San Diego, CA (Poster Abstract)
- Hansen, H, Jellen EN, Jarvis D, **Maughan** PJ (2018) A PacBio and Hi-C based proximity guided assembly of *Chenopodium pallidicuale*. Quinoa and related species workshop. Plant and Animal Genome XXVI Conference, January 12-16, San Diego, CA (Oral presentation)
- Lee, R, **Maughan** PJ, Langdon T, Schlueter J, Jackson E, Jellen EN (2018). A Reference-Quality Assembly and Annotation of the *Avena atlantica* Genome. Plant and Animal Genome XXVI Conference, January 12-16, San Diego, CA (Poster Abstract)
- Van Loo, EN, Jarvis DE, Borm TJA, Ho YS, Schmoeckel SM, Jellen EN, Kharbatia NM, Li B, Lightfoot DJ, Saber NO, Schijlen E, van der Linden CG, **Maughan** PJ, Tester MA (2017) The Chromosome Scaffold Based Quinoa Genome: Its Building and Its Use to Find the Non-Bitter Mutations in Quinoa. Plant and Animal Genome XXV Conference, January 15, San Diego, CA (Oral/Poster presentation)
- Maughan** PJ, Ramaraj T, Jellen EN, Lee R (2017) PacBio and Hi-C Based Proximity-Guided Assembly of Amaranth Pseudo Chromosomes. Plant and Animal Genome XXV Conference, January 15, San Diego, CA (Oral/Poster presentation)
- Anderson B, Evans M, Wallace L, Clouse J, **Maughan** PJ, Stewart RJ (2016) SNP-based Genetic Diversity and Structure of *Agave utahensis*. Botany 2016. July 30 - August 3, Savannah, Georgia (Poster Presentation)
- Gines M, Baldwin T, Rashid A, Klos K, Bregitzer P, Jellen EN, **Maughan** PJ (2016) Five candidate reference genes for barley selected through *in silico* analysis demonstrate better stability than traditional housekeeping genes across eight tissues. The 12th International Barley Genetics Symposium. June 26-30, 2016. Minneapolis-St. Paul, Minnesota USA (Poster Presentation)

- Anderson CD, Ricks NJ, Farley KM, **Maughan PJ**, Stevens MR (2016) Development and classification of SSRs for *Penstemon scariosus* (Plantaginaceae). Utah Conference on Undergraduate Research. Salt Lake City, Utah. (Poster Presentation)
- Jellen EN, **Maughan PJ** (2016) Quinoa: Modern Improvements for an Ancient Crop. King Abdullah University of Science & Technology (KAUST). January 15-20th. Thwall, Saudi Arabia. (Oral presentation)
- Jarvis DE, Shwen H, Lightfoot D, **Maughan PJ**, Jellen EN, Tester M et al. (2016) The Genome of *Chenopodium quinoa*. Plant and Animal Genome XXV Conference, January 9-13, San Diego, CA (Oral presentation)
- Chu AE, Fogarty MC, **Maughan PJ**, Jackson EW, Jellen EN (2016) Homeoallelic Variation in Oat Hemicellulose Biosynthesis Genes. Plant and Animal Genome XXV Conference, January 9-13, San Diego, CA (Oral presentation)
- Anderson CD, Farley KM, Ricks NJ, **Maughan PJ**, Stevens MR (2016) Development of *Penstemon scariosus* (Plantaginaceae) Microsatellite Markers. Plant and Animal Genome XXV Conference, January 9-13, San Diego, CA (Poster Abstract)
- Walstead RN, Whaley A, Reid R, Jay JJ, Lee R, Sebra R, Langdon T, Sheridan J, Hayes A, Jackson E, Jellen EN, **Maughan PJ**, Brouwer C, Schlueter J (2016) Sequencing the Genome of the Hexaploid Oat. Plant and Animal Genome XXV Conference, January 9-13, San Diego, CA (Poster Abstract)
- Jellen EN, Bertero D, **Maughan PJ** (2015) Pitseed goosefoot (*Chenopodium berlandieri*), a tremendously variable genetic resource for remediating production deficiencies in lowland subtropical and warm-season temperate quinoa (*C. quinoa*). May 4-7, 2015. International Symposium on Protein Crops. V Meeting AEL. Plant Proteins for the Future. Pontevedra, Spain.
- Clouse J, Page JT, Ramaraj T, Udall JA, Jellen EN, **Maughan PJ** (2015) Genome Assembly of *Amaranthus hypochondriacus*: An Emerging C4 Pseudo - Cereal Grain Crop. Utah Plant Genetics Conference, Aspen Grove, Utah. Feb. 24, 2015 (Poster Abstract)
- Fogarty MC, Dohse CA, Braithwaite E, **Maughan PJ**, Jackson E, Jellen EN (2015) Characterization of Hemicellulose and Starch Biosynthesis Genes in *Avena*. Plant and Animal Genome XXIII Conference, January 10-14, San Diego, CA (Poster Abstract)
- Clouse J, Page JT, Ramaraj T, Udall JA, Jellen EN, **Maughan PJ** (2015) Genome Assembly of *Amaranthus hypochondriacus*: An Emerging C4 Pseudo - Cereal Grain Crop. Plant and Animal Genome XXIII Conference, January 10-14, San Diego, CA (Poster Abstract)
- Jellen EN, Fogarty MC, **Maughan PJ**, Jackson E, Brown DC, Cepeda-Cornejo VC (2014) What does *CSIF6* gene sequence and expression tell us about genome relationships in polyploid *Avena*? American Oat Workers Conference, July 13-16; 2014, Ottawa, Canada (Oral Presentation)
- Joice A, Soliai M, Elzinga D, **Maughan PJ**, Kuberan, B (2014) The Evolution of Heparan Sulfate Biosynthetic Enzymes from a 3-*O*-Sulfotransferase Perspective. The Rise of Proteoglycans in Mechanotransduction and Microenvironmental Signaling. Gordon Research Conference in Proteoglycans. July 5-6, 2014, Andover, NH. (Poster Abstract)
- Dunken S, **Maughan PJ**, Baxter R, McMillan B, Larsen R (2014) Influence of translocation on greater sage-grouse in Strawberry Valley, Utah: Has genetic diversity increased following augmentation? The Utah Chapter of the Wildlife Society Annual Meeting. March 19-21, St. George, Utah (Poster Presentation)
- Chattwin W, Carpenter K, Johnson L, **Maughan PJ** (2014) Genetic Marker Development and Diversity Analysis of Post Oak (*Quercus stellata*). Plant and Animal Genome XXII Conference, January 11-15, San Diego, CA (Poster Abstract)
- Brown, D Cepeda V, **Maughan PJ**, Palmino Hasbash GA, De la Cruz Torres E, Jellen EN (2014) Molecular Cloning and Characterization of the Granule-Bound Starch Synthesis Gene GBSSI in Andean and Mexican Quinoas. Plant and Animal Genome XXII Conference, January 11-15, San Diego, CA (Poster Abstract)

- Houston DD, Davis N, Page J, Ridge P, Evans RP, **Maughan** PJ, Udall JA, Shiozawa DK (2013) Whole transcriptome sequencing facilitates nuclear marker development in salmonid fishes. *Evolution* 2013. June 21-25, Snowbird, Utah (Poster Presentation)
- Fairbanks AD, Ogden HT, Parker GJ, **Maughan** PJ, Fairbanks DJ (2013) NANOGP8: The evolution of a Human-Specific Retro-oncogene. *Evolution* 2013. June 21-25, Snowbird, Utah (Poster Presentation)
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- Mhada M, Benlhabib O, Jimenez FR, Arano I, Andres ED, **Maughan** PJ and Jellen EN (2013) SNP markers as a tool to assess quinoa (*Chenopodium quinoa* Willd.) genetic diversity. March 10-15, Agadir, Morocco (Poster Presentation)
- Jellen EN, **Maughan** PJ, Coleman CE, Stevens MR, Fairbanks DJ, Udall JA (2013) The Quino genetics program at Brigham Young University. SWUP-MED, Sustainable water use for securing food production in the Mediterranean region under changing climate. March 10-15, Agadir, Morocco (Oral Presentation; Invited)
- Islamovic E, Reid R, Gharaibeh R, Brouwer C, Schlueter JA, Schlueter SD, Hu G, Campbell R, Shackelford, Ladizinsky G, Jellen EN, **Maughan** PJ, et al. (2013) Strimagdo: Diploid and Tetraploid Oat Transcriptome Interactions In a Synthetic Hexaploid Oat. Plant and Animal Genome XX Conference, January 12-16, San Diego, CA (Oral Presentation)
- Jellen EN, Arano I, **Maughan** PJ, Munir H, Pew ST, Brown DC, Brase JC (2013) Identifying DNA Sequence Variation in Key N-Metabolism Genes in Different Species of *Chenopodium*. Plant and Animal Genome XX Conference, January 12-16, San Diego, CA (Poster Abstract)
- Islamovic E, Obert DE, Oliver RE, Miclus KJ, Jellen EN, **Maughan** PJ, et al. (2013) QTLs affecting barley height, spike length and spike angle. Plant and Animal Genome XX Conference, January 12-16, San Diego, CA (Poster Abstract)
- Reid RS, Gharaibeh R, Brouwer C, Schlueter J, Schlueter S, Islamovic E, Hu G, Campbell R, Shackelford I, Ladizinsky G, Jellen EN, **Maughan** PJ, Redman-Hulse R, Coon-Fogarty M, et al. (2013) “Talking Genomes” - Transcriptome comparison of diploid, tetraploid and newly synthesized hexaploid oat. Plant and Animal Genome XX Conference, January 12-16, San Diego, CA (Poster Abstract)
- Houston DD, Elzinga DB, **Maughan** PJ, Smith SM, Kauwe JSK, Evans RP, Stinger RP, Shiozawa DK (2012) Next generation sequencing and bioinformatics procedures identify single nucleotide polymorphisms capable of differentiating cutthroat trout subspecies. 44th Annual Meeting of the Desert Fishes Council (DFC), Furnace Creek, Death Valley National Park, California. November 14-18 (Oral Presentation)
- Fairbanks AD, Ogden TH, Parker GJ, **Maughan** PJ, Fairbanks DJ (2012) NANOGP8: Evolution of a Human-Specific Retro-oncogene. National Council on Undergraduate Research, NCUR. Weber State University, April 11-13, 2012 (Poster Abstract).
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- Raney J, Udall JA, Raney JC, **Maughan** PJ (2012) Drought Tolerance in *Chenopodium quinoa*. Utah Plant Genetics Conference. Aspen Grove, Utah. February 28 (Poster Abstract)
- Smith S, Jellen EN, Udall JA, Munir H, **Maughan** PJ (2012) Discovery, Characterization, and Linkage Mapping of Single Nucleotide Polymorphism in *Chenopodium quinoa* Willd. Utah Plant Genetics Conference. Aspen Grove, Utah. February 28 (Poster Abstract)
- Chao S, Oliver R, Lazo G, Tinker N, Jellen E, **Maughan** PJ, Jackson E (2012) Development of a High-Density SNP Genotyping Panel as A Community Resource for Genetic Analysis in Oat. Plant and Animal Genome XIX Conference, January 13-17, San Diego, CA (Oral Presentation)

- Jackson E, Coon M, Oliver R, Lazo GR, Tinker N, Chao S, Lutz J, Jellen EN, **Maughan PJ** (2012) Markers to Maps to Molecules: Moving forward on Genetic Dissection of Oat Beta Glucan. Plant and Animal Genome XIX Conference, January 13-17, San Diego, CA (Oral Presentation)
- Jimenez F, **Maughan PJ**, Alvarez A, Pratt DB, Kietlinski K, Smith S, Udall JA, Patton K, Jellen EN (2012) Application of Markers Developed from Genome Reduction-454 Sequencing in Orphaned Andean Crops. Plant and Animal Genome XIX Conference, January 13-17, San Diego, CA (Poster Abstract)
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- Coon M, Jackson EW, Lutz J, Hu G, Islamovic E, Oliver R, **Maughan PJ**, Jellen EN (2011) Allelic Variation For The (1,3;1,4)- β -D-Glucan Cslf6 Gene In The Oat Genus (*Avena*). Plant and Animal Genome XIX Conference, January 15-19, 2011, San Diego, CA (Poster Abstract)
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- Dockter RB, Broderick SR, Dockter KG, Tumbleson DM, **Maughan PJ**, Stevens MR (2010) Molecular marker development using 454-pyrosequencing in four species of *Penstemon*. American Society for Horticultural Sciences. August 4, 2010. Palm Desert, CA (Poster Abstract)
- Maughan PJ**, Yourstone S, Lade E, Jellen EN, Udall JA. (2010) SNP discovery via genomic reduction, barcoding and 454-pyrosequencing in amaranth. Plant and Animal Genome XVII Conference, January 10-14, 2010, San Diego, CA (Poster Abstract)
- Byers R, Yourstone S, **Maughan PJ**, Udall JA (2010) Identification of molecular markers in allotetraploid cotton. Plant and Animal Genome XVII Conference, January 10-14, 2010, San Diego, CA (Poster Abstract)
- Morales JA, **Maughan PJ**, Udall JA (2009) Characterization of transcriptional responses to salt stress in *Chenopodium quinoa*. Plant and Animal Genome XVII Conference, January 10-14, 2009, San Diego, CA (Poster Abstract)
- Reynolds DJ, Elzinga DB, Udall JA, **Maughan PJ**, Bonifacio A, Fairbanks DJ (2009) Development, assembly and characterization of a *Chenopodium quinoa* EST collection. Plant and Animal Genome XVII Conference, January 10-14, 2009, San Diego, CA (Poster Abstract)
- Turner T, Elzinga DB, Udall JA, Fairbanks DJ, Bonifacio A, **Maughan PJ** (2009) Characterization of salt overly sensitive (*SOS1*) gene homoeologs in *Chenopodium quinoa* Willd. Plant and Animal Genome XVII Conference, January 10-14, 2009, San Diego, CA (Poster Abstract)
- Vargas A, Rojas-Beltran J, Adhikary G Horihuela D, **Maughan PJ**, Jellen EN, Stevens MR, Geary B (2009). Microsatellite marker development in cañahua (*Chenopodium pallidicaule*). Plant and Animal Genome XVII Conference, January 10-14, 2009, San Diego, CA (Poster Abstract)
- Vargas A, Geary B, Stevens M, Bonifacio A, Fairbanks D, **Maughan PJ**, Jellen E, Coleman C (2009) Quinoa cultivar resistance to *Peronospora farinosa* f. sp. chenopodii. Amer. Phytopathological Society Annual Meeting. Phytopathology 99:S134. Aug 1-5, 2009. Portland, OR (Poster Abstract)
- Sederberg MC, **Maughan PJ**, Kolano BA, Meldrum B, Jellen EN. (2009) Genome relationships in new world *Chenopodium* species: I. Evidence from fluorescent *in situ* hybridization. Plant and Animal Genome XVII Conference, January 10-14, 2009, San Diego, CA (Poster Abstract)
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- Fairbanks DJ, **Maughan PJ**, Schaalje GB (2008) Evolution of the NANOG gene and its pseudogene families in the human, chimpanzee, and rhesus macaque genomes. International Congress of Genetics, July 12-17, Berlin, Germany (Poster Abstract)
- Coleman CE, Jellen EN, **Maughan PJ**, Stevens MR, Udall JA Fairbanks DJ, Rojas-Beltran J, Bonifacio A (2008) Progress in the Development and use of genomic tools for quinoa and amaranth. Plant and Animal Genome XVI Conference, January 12-16, 2008, San Diego, CA (Poster Abstract)
- Jarvis DE, Kopp OR, Jellen EN, Mallory MA, Pattee J, Bonifacio A, Coleman CE, Stevens MR, Fairbanks DJ, **Maughan PJ** (2007) Simple sequence repeat development, polymorphism and genetic mapping in quinoa (*Chenopodium quinoa* Willd.). McKnight Foundation, Collaborative Crop Research Program Biennial Grantees Conference. Paris, France (Poster Abstract)
- King B, **Maughan PJ**. (2007) DNA Barcoding in *Chenopodium*. Utah Conference on Undergraduate Research. February 2, 2007 University of Utah, Salt Lake City, Utah (Poster Abstract)
- Rojas-Beltrán JA, Bonifacio A, **Maughan PJ** (2007) Mejoramiento genético asistido por técnicas modernas para el desarrollo competitivo de la cadena de la quinua: técnicas derivadas de la biología molecular. Ministerio de Desarrollo Rural, Agropecuario y Medio Ambiente. 16 p. (Poster Abstract)

- Mallory MA, Vivas RK, Karanu MN, Alvarez JB, Jellen EN, Stevens MR, Fairbanks DJ, **Maughan PJ** (2007) Development of microsatellite markers for the grain amaranths (*Amaranthus*). Plant and Animal Genome XV Conference, January 13-17, 2007, San Diego, CA (Poster Abstract)
- Jellen EN, **Maughan PJ**, Udall JA, Soliai MM, King B, Dilg M, Mildenstein K, Packer D, Coleman CE, Stevens MR, Fairbanks DJ (2007) Wild and cultivated genetic resource characterization in american *Chenopodium*. Plant and Animal Genome XV Conference, January 13-17, 2007, San Diego, CA (Poster Abstract)
- Cobb JN, **Maughan PJ**, Gonsalves D, Tripathi S, Suzuki J, Stafford MW, Stevens MR (2007) Agrobacterium mediated production of putative tomato transformants with constructs of tospoviral origin. Plant and Animal Genome XV Conference, January 13-17, 2007, San Diego, CA (Poster Abstract)
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- Kopp OR, Mallory M, McArthur C, Vivas R, Pattee J, Jellen EN, Stevens MR, Fairbanks DJ, Coleman CE, **Maughan PJ** (2006) Development of microsatellite markers for *Chenopodium quinoa*. Plant and Animal Genome XIV Conference, January 14-19, 2006, San Diego, CA (Poster Abstract).
- Swenson EM, Geary B, Plata G, Bonifacio A, **Maughan PJ**, Jellen EN, Coleman CE, Fairbanks DJ, Stevens MR (2006) AFLP fingerprints for isolates of *Peronospora farinosa* f.sp. chenopodii (Downy Mildew) in quinoa from the Andes of South America. Plant and Animal Genome XIV Conference, January 14-19, 2006, San Diego, CA (Poster Abstract)
- Maughan PJ**, Kolano BA, Maluszynska J, Coles ND, Bonifacio A, Rojas 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*. Plant and Animal Genome XIV Conference, January 14-19, 2006, San Diego, CA (Poster Abstract)
- Parkinson NS, Coleman CE, **Maughan PJ**, Jellen EN, Fairbanks DJ, Cox GJ, Balzotti M, Brown MP, Stevens MR (2006) Utilization and characterization of a *Chenopodium quinoa* BAC library for a better understanding of its genome and physical mapping. Plant and Animal Genome XIV Conference, January 14-19, 2006, San Diego, CA (Poster Abstract)
- Jarvis DE, **Maughan PJ**, Stevens MR, Coleman CE, Geary BD, Bonifacio A, Fairbanks DJ, Balzotti MB, Christensen SA, Kolano BA, Maluszynska J, Larson EM, Mason SL, Pratt C, Ricks MD, Jellen EN (2006) The development of molecular tools for improvement of quinoa (*Chenopodium quinoa* Willd.), Plant and Animal Genome XIV Conference January 14-19, 2006, San Diego, CA (Oral Abstract)
- Stevens MR, **Maughan PJ**, Bonifacio A, Coleman CE, Jellen EN, Geary BD, Fairbanks DJ, Balzotti MB, Christensen SA, Gardunia BW, Jarvis DE, Kolano BA, Larson EM, Mason SL, Pratt C, Ricks MD (2005) The development of molecular tools for improvement of the South American high plains underdeveloped crop quinoa (*Chenopodium quinoa* Willd.) International Conference on "Plant Genomics and Biotechnology: Challenges and Opportunities." November 26-28, 2005, Raipur, Chhattisgarh, India (Oral Abstract)
- Benson J, Geary B, Chambers A, Cameron N, Wood SG, Cookson T, Stevens MR, **Maughan PJ**, Jellen EN (2005) Alkaloid and endophyte variability in festuca and lolium grass species. ASA-CSSA-SSSA International Annual Meetings. November 6-11, 2005, Salt Lake City, UT (Poster Abstract).
- Jellen EN, Benlhabib O, **Maughan PJ**, Stevens MR, Dilg M, Sederberg M, Bonifacio A, Coleman CE, Fairbanks DJ, Jacobsen S-E (2005) Introduction of the Andean crop quinoa in Morocco. ASA-CSSA-SSSA International Annual Meetings. November 6-11, 2005, Salt Lake City, UT (Oral Abstract)
- Maughan PJ**, Sederberg M, Stevens MR, Coleman CE, Jellen EN, Fairbanks DJ, Low YY, Morriss CD, Moyle M, Bonifacio A (2005) Isolation and analysis of resistance gene analogs (RGAs) in quinoa (*Chenopodium quinoa*). ASA-CSSA-SSSA International Annual Meetings. November 6-11, 2005, Salt Lake City, UT (Poster Abstract)

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- Christensen S, Rampton BW, Butler DC, Papa R, Jellen EN, **Maughan PJ**, Stevens MR (2005) Assessing genetic diversity in tepary bean using orthologous SSR primers derived from common bean. Plant and Animal Genome XIII Conference, January 15-20, 2005, San Diego, CA (Poster Abstract)
- Jellen EN, Packer DJ, Kolano BA, McCarty RR, Maluszynska J, Stevens MR, Coleman CE, Fairbanks DJ, Bonifacio A, **Maughan PJ** (2005) Analysis of species and genome relationships in the goosefoot genus (*Chenopodium* L.) using microsatellite markers and FISH. Plant and Animal Genome XIII Conference, January 15-20, 2005, San Diego, CA (Poster Abstract)
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- Ricks MD, Jones RB, Stewart EW, Chambers A, Towers AJ, Coleman CE, Fairbanks DJ, Stevens MR, Wood SG, Jellen EN, **Maughan PJ** (2005) Genetic and chemical analysis of bitter saponins in *Chenopodium quinoa* Willd. Plant and Animal Genome XIII Conference, January 15-20, 2005, San Diego, CA (Poster Abstract)
- 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 (2005) Construction of a quinoa BAC library and its use in identifying the 11S seed storage protein gene. Plant and Animal Genome XIII Conference, January 15-20, 2005, San Diego, CA (Poster Abstract)
- Coleman CE, Fairbanks DJ, Jellen EN, **Maughan PJ**, Stevens MR (2005) Students as researchers: Opening the laboratory doors to undergraduates. American Society of Plant Biologists, Seattle, WA (Poster Abstract)
- Jellen EN, Jarvis DE, Loskutov I, Jannink J-L, Ames DC, Raymond FD, **Maughan PJ** (2005) Molecular Variation In The Secondary And Distant Primary Oat Gene Pools (*Avena* spp.) Plant and Animal Genome XIII, San Diego, CA (Poster Abstract)
- Fairbanks DJ, Stevens MR, Jellen EN, Coleman CE, **Maughan PJ**, and Geary B, Bonifacio A, et al. (2004) Sustainable production of quinoa (*Chenopodium quinoa* Wild), a neglected food crop in the Andean region. McKnight Foundation, Collaborative Crop Research Program Biennial Grantees Conference. Vaals, Netherlands (Poster Abstract)
- Maughan PJ**, Coles ND, Christensen SA, Coleman CE, Jellen EN, Stevens MR, Fairbanks DJ, Bonifacio A, Rojas-Beltran J (2004) Development and use of microsatellite and single nucleotide polymorphism markers for germplasm characterization in *Chenopodium quinoa* Willd. American Society of Agronomy Conference, Seattle, WA (Poster Abstract)
- Jellen EN, Jarvis DE, Ames DC, Loskutov IG, Raymond FD, **Maughan PJ** (2004) Genetic Variation in the Secondary and Distant Primary Oat Gene Pools. American Society of Agronomy Conference, Seattle, WA (Poster Abstract)
- Jellen EN, Kolano BA, **Maughan PJ**, Sederberg MC, Parkinson SE, Coles ND, Bonifacio A, Stevens MR, Coleman CE, Fairbanks DJ, Maluszynska J (2004) Molecular and Cytological Characterization of Ribosomal RNA Genes in Wild and Cultivated *Chenopodium* (Quinoa). American Society of Agronomy Conference, Seattle, WA (Poster Abstract)
- Mason SL, Rasmussen A, Stevens MR, Jellen EN, Fairbanks DJ, Coleman C, **Maughan PJ** (2004) Developing microsatellite markers in quinoa (*Chenopodium quinoa* Willd.). Plant and Animal Genome XII, San Diego, CA (Poster Abstract)
- Coles ND, Christensen SA, Steven MR, Jellen EN, Fairbanks DJ, Coleman CE, **Maughan PJ** (2004) Identification of single nucleotide polymorphisms (SNPs) in quinoa (*Chenopodium quinoa*) using

EST and random genomic clone sequences. Plant and Animal Genome XII, San Diego, CA (Poster Abstract)

Ricks M, Jarvis D, Bonifacio A, Butler D, Jones RB, Steward E, Stevens MR, Fairbanks DJ, Coleman C, Jellen EN, **Maughan** PJ (2004) Preliminary genetic linkage map of quinoa (*Chenopodium quinoa* Willd). Plant and Animal Genome XII, San Diego, CA (Poster Abstract)

Rojas-Beltrán JA, Bonifacio A, **Maughan** PJ, Jellen EN, Stevens M., Coleman C., Fairbanks D (2003) Avances en el estudio de la diversidad genética de la colección boliviana de quinua utilizando marcadores de tipo microsatélites. Informe Compendio (2002-2003). 84-89 (Poster Abstract)

Jellen EN, Stevens MR, **Maughan** PJ, Coleman CE, Bonifacio A, Mason SL, Ricks MD, Pratt C, Jarvis DE, Butler DC, Christensen SA, Coles ND, Jones RB, Maffei T, Nelson PT, Rasmussen AG, Stewart EW, Thompson CL, Gardunia BW, Fairbanks DJ (2003) Genetic mapping and polymorphism in quinoa. American Society of Agronomy Meetings, Denver, CO (Poster Abstract)

Coleman CE, Bonifacio A, Fairbanks DJ, Gardunia BW, Jellen EN, Mason SL, **Maughan** PJ, Pratt C, Stevens MR (2003) Towards the genetic characterization and improved utilization of quinoa: the ‘mother grain’ of the Incas. From the green revolution to the gene revolution, Bologna, Italy

Coleman CE, Jefferies BA, Winegar KJ, Coles ND, Richardson EP, Thompson CL, Fairbanks DJ, **Maughan** PJ, Jellen EN, Stevens MR (2003) Genes encoding storage proteins in *Chenopodium quinoa* seeds. Plant Biology 2003, Honolulu, HI (Poster Abstract)

Professional Development Activities

Sabbatical leave (July 31-Aug 11,2011) – David H. Murdock Research Institute, Kannapolis, NC

GE academy workshop (Summer-2008) - Brigham Young University, Provo, Utah 84602

International microarray workshop (Winter-2008) – University of Arizona, Arizona Genomics Institute, Dr. David Galbraith

Sabbatical leave (Summer-2006) – University of Arizona, Arizona Genomics Institute, Dr. Rod Wing

- Construction of an amaranth (*Amaranthus hypochondriacus*) bacterial artificial chromosome library and genomic sequencing of herbicide target genes. *The Plant Genome*

Dreamweaver skill builder, Office of Information Technology (2006)

Web development skill builder, Office of Information Technology (2005)

Reinvention center conference on “Integrating Research into Undergraduate Education: The Value Added” Washington, DC (2004)

Peter Seldin teaching workshop, Provo, UT (2004)

- Developed teaching portfolio and enhancing teaching philosophy

The Foundation for critical thinking conference at Sonoma State University, CA (2003)

- “Teaching students to think scientifically”

New faculty development seminar BYU (2003)

- Developed/submitted five-year faculty development plan
- Faculty development fall seminar series for new faculty

BYU summer institute of applied statistics (Statistical genetics, presented by Bruce Weir, NCSU)

Graduate Students (Program is M.S. granting only)

Supervision of graduate students as a committee chair or co-chair:

- Alex Kimball** (M.S., expected 2021) – Species diversity within *Chenopodium berlandieri*.
- Hayley Hansen Mangelson** (M.S., 2019) – Genome assembly and genetic diversity analysis of *C. pallidicaule*. (2 peer reviewed publications, 3 abstracts)
- Chris Hanson** (M.S., 2018) – Exploration of The *Gossypium raimondii* Genome using Bionano Genomics Physical Mapping Technology. (2 abstracts)
- Rebekah Lee** (M.S., 2017) – Physical mapping in hexaploid, tetraploid and diploid oat species. (1 peer-reviewed publication, 3 abstracts)
- Jared Clouse** (M.S., 2015) – Pursuing M.D. at Indiana and Purdue University (IUAPU). Thesis: The Amaranth (*Amaranthus hypochondriacus*) Genome: Genome, Transcriptome and Physical Map Assembly. (3 peer-reviewed publications; 2 abstracts)
- Scott Smith** (M.S., 2013) – Pursuing Ph.D. at North Carolina State University. Thesis: Application of Genome reduction, Next Generation Sequencing, and KASPar Genotyping in Development, Characterization, and Linkage Mapping of Single Nucleotide Polymorphisms. (6 peer-reviewed publications; 6 abstracts)
- Josh Raney** (M.S., 2012) – Employed at AURP Genomic Services, Thesis: Transcriptome analysis of drought induced stress in *Chenopodium quinoa*. (3 peer-reviewed publications; 3 abstracts)
- Amalia Vargas** (co-chair; M.S. 2010) – Employed as research scientist (PROINPA), La Paz, Bolivia. Development and use of microsatellite markers for genetic diversity analysis of cañahua (*Chenopodium pallidicaule* Aellen). (1 peer reviewed publication; 3 abstracts)
- Derrick Reynolds** (M.S., 2009) – Pursuing Ph.D. at the University of California, Irvine, Thesis: Genetic dissection of triterpenoid saponin production in *Chenopodium quinoa* using microarray analysis (1 peer reviewed publication in prep; 1 abstract)
- Taylor B. Turner*** (M.S., 2007) – Pursuing M.D. at the University of Utah, Thesis: Cloning and characterization of the *Salt Overly Sensitive 1* (SOS1) gene in *Chenopodium quinoa*. (1 peer reviewed publication; 1 abstract)
- Melanie A. Mallory** (M.S., 2007) – Employed as senior research scientist (AURP), Salt Lake City, Utah. Thesis: Development of Microsatellite Markers in Grain Amaranths. (2 peer reviewed publications; 3 abstracts)
- David E. Jarvis*** (M.S., 2006) – Pursuing Ph.D. at the University of Arizona, Thesis: Simple sequence repeat development, polymorphism and genetic mapping in quinoa (*Chenopodium quinoa* Willd.). (2 Peer Reviewed Publications; 7 abstracts)
- Marc D. Ricks*** (M.S., 2005) – Pursuing Ph.D./M.D. at John Hopkins School of Medicine, Thesis: Genetic mapping of the bitter saponin production locus (BSP locus) in *Chenopodium quinoa* Willd. (1 Peer Reviewed Publication; 5 abstracts)
- Shawn A. Christensen** (M.S., 2005) – Pursuing Ph.D. at Texas A&M, Thesis: Assessment of *Chenopodium quinoa* Willd. Genetic diversity in the USDA and CIP-FAO Collections using SSRs and SNPs. (1 publication) (2 Peer Reviewed Publications; 6 abstracts)
- Shanna L. Mason** (Co-chair; M.S., 2004) – Pursuing Ph.D. at the University of Wisconsin, Thesis: Development and use of microsatellite markers for germplasm characterization in quinoa (*Chenopodium quinoa* Willd.). (2 Peer Reviewed Publications; 5 abstracts)

*Received Graduate Research Mentoring Awards; ** Anticipated completion date

Supervision of graduate students as a committee member:

Erica Larson	M.S. 2004 – 2006
Marie Balzoti	M.S. 2004 – 2006
Maria Sederberg	M.S. 2006 – 2009
John Cupp	Ph.D. 2006 – 2012
Bin Liu	Ph.D. 2006 – 2008
Joshua Cobb	M.S. 2006 – 2008

Jason Morales	M.S. 2007 – 2009
Matthew Cook	Ph.D. 2008 – 2013
Jeffery Brammer	M.S. 2008 – 2011
Felix Jimenez	M.S. 2009 – 2011
Ryan Van Yperen	Ph.D. 2009 – 2015
Rachel Redmond	M.S. 2009 – 2011
Robert Byers	M.S. 2009 – 2011
Melissa Coon	M.S. 2010 – 2012
Desiree Lara	M.S. 2012 – 2013
Suzanne Dunken	M.S. 2013 – 2014
Mark Huynh	M.S. 2012 – 2014
Douglass Brown	M.S. 2012 – 2014
Sudeep Ghimire	M.S. 2012 – 2015
Joann Diray	Ph.D. 2011 – 2016
Aaron Sharp	M.S. 2014 – 2016
Michael Gines	M.S. 2014 – 2016
Chris Hanson	M.S. 2016 – 2018
Alex Freeman	M.S. 2017 – 2018
Evan Long	M.S. 2017 – 2018
Spencer Hunt	M.S. 2017 – 2019
Hayley Mangelson	M.S. 2017 – 2019
Brian Cox	M.S. 2018 – 2020
Melissa Fogarty	Ph.D. 2014 – 2020
Jason Stettler	Ph.D. 2016 – present
Samuel Decker	M.S. 2019 – present
Lauren Young	M.S. 2020 – present
Andrew Parker	M.S. 2020 – present
Shane Smith	M.S. 2020 – present

Hosted Visiting Scientist:

Eulogio De La Cruz Torres (Aug – Sept 2018) Instituto Nacional de Investigaciones Nucleares (ININ), Carretera Mexico-Toluca S/N

Patricia Deza Montoya Denise (Aug – Sept 2018) Universidad Nacional Agraria La Molina UNALM; Programa de Cereales y Granos Nativos, La Molina, Lima, Peru

Edgar Gomez Villalba (Aug – Sept 2018) Agencia Boliviana de Energia Nuclear – ABEN. Zona Achachicala, La Paz, Bolivia

Duver Alberto Martinez Pacavita (Aug – Sept 2018) Universidad Distrital Francisco Jose de Caldas; Departamento de Biología; Grupo de Biología Molecular, Bogota, Colombia

Carla Garcia Morales (Aug – Sept 2018) Facultad de Ciencias, Universidad Autonoma del Estado de Mexico, Campus El Cerrillo, Toluca, Mexico

Leonardo Ani Hinojosa Sanchez (Oct. 2018 – Dec. 2018) Washington State University, WA, USA

Verónica Cepeda Cornejo (July 2012 – July 2013) Laboratorio de Interacción Planta-Animal. Instituto de Ecología, UNAM.

Manal Mhada (Aug 2012 – Oct. 2012) Institut Agronomique et Vétérinaire Hassan II IA Hassan II, Rabat, Morocco

Dr. Luz Pando Gomez (July – Aug 2012) Universidad Nacional Agraria La Molina, Lima, Peru

Ing. Mario Orellana Nunez (July – Aug 2012) Universidad de El Salvador, San Salvador, El Salvador

Ing. Eulogio de la Cruz Torres (July – Aug. 2012) – Instituto Nacional de Investigaciones Nucleares, Toluca, Mexico

Alicia Barreda (Jan 2009 –Mar 2009) Universidad Nacional Agraria La Molina, Lima, Peru

Lorena Parra González (Nov 2008 – Jan 2009) Unidad de Biotecnología, Centro de Investigaciones Agropecuarias (INIA), Carillanca, Temuco, Chile

Ing. Ana Guiluz de la Barra (Sept 2007-Mar 2008) Universidad Nacional Agraria La Molina, Lima, Peru

Ing. Yola Sánchez (June – Aug 2006) The Foundation for the Promotion and Investigation of Andean Products (PROINPA), La Paz, Bolivia

Ing. Fancisco Fuentes Carmona (Jan – Apr 2005; Jan-Mar 2006) Universidad de Arturo Prat, Iquique, Chile

Ing. Eulogio de la Cruz Torres (May– Aug 2004) Instituto Nacional de Investigaciones Nucleares, Toluca, Mexico

Dr. Alejandro Bonifacio (Mar – June 2003) The foundation for the Promotion and Investigation of Andean Products (PROINPA), La Paz, Bolivia

Dr. Jorge Rojas Beltran (Mar – June 2003) The foundation for the Promotion and Investigation of Andean Products (PROINPA), La Paz, Bolivia

Grants for research or creative works

External Funding:

Jellen EN, **Maughan** PJ, Kathy Klos (2020) Comparative Evaluation of Avena Genome Structure. USDA ARS NACA award #58-2050-0-006. \$143,330 (24 months)

Maughan PJ, Bushman S (2020). Techniques and Improved Efficiency in Next Generation Sequencing. USDA ARS award #58-2080-6-018. \$65,882.30 (12 months)

Maughan PJ, Bushman S (2020). Polyploidy Genome Sequencing and Annotation. USDA award #58-2080-0-014 \$33,330 (60 months)

Jellen EN, **Maughan** PJ, Jason Fiedler (2020) Small Grains Pangenome Assembly and Annotation. USDA ARS NACA award #58-3060-0-030 \$158,961 (60 months)

Jarvis DE, **Maughan** PJ, Jellen EN (2019). Improving quinoa productivity through the use of wild relatives and induced variation. USDA-NIFA. AFRI Plant Breeding Award #2020-67014-30867 \$500,000 (60 months)

Jellen EN, **Maughan** PJ, Kenealey J, Dunn M, Steele F, Pike O (2016). General Research Charter 4. General Mills \$30,000.

Murphy K, Masias FB, Creech E, Crowder D, Ganjyal G, Jellen EN, **Maughan** PJ, Maul JE, Painter K (2016). Breeding and agronomy of quinoa for organic farming systems. \$1,999,950 (BYU: \$122,013)

Jellen EN, **Maughan** PJ, Kenealey J, Dunn M, Steele F, Pike O (2016). General Research Charter 1. General Mills \$180,000.

Gomez-Pando LR, **Maughan** PJ, Jellen EN, Identification of lines with genetic resistance to downy mildew in populations generated by the induction of mutation and germplasm collected en Peru for sustainable and organic production of quinoa (*Chenopodium quinoa* Willd). PNIA National program for innovated agriculture, Peru (Programa Nacional de Innovación Agraria) \$20,000

Schlueter JA, Brouwer C, Jellen EN, **Maughan** PJ (2015). ABR-PG: Sequencing the hexaploid oat genome using diploid references ABR-PG: Sequencing the hexaploid oat genome using diploid references. NSF-Plant Genome Research Program. \$1,452,026.

Jellen EN, **Maughan** PJ (2014). Plant Exploration in UT, WY, AZ, NM, CO, NE, MN, WI, IL, MO, KS, LA and TX to Collect *Chenopodium* germplasm for Quinoa Improvement. USDA-ARS \$8,078

Jellen EN, **Maughan** PJ (2013-2016). Characterization of Cereal Hemicellulose and Starch Biosynthesis

Genes; Development and Application of Novel Genetic Approaches to Oat (*Avena* spp.) and Garden Orache (*Atriplex hortensis*). General Mills Inc. \$202,104

Murphy K, Baik B-K, Benedict C, Creech E, Desta K, Goldberger J, Machado S, **Maughan PJ**, Matanguihan J, Petrie S, Reeve J (2012-2015). Developing adapted varieties and optimal management practices for quinoa in diverse environments. USDA/NIFA-REEIS. \$1,603,653

PROINPA Quinoa Research Group (Bolivia), **Maughan PJ**, Fairbanks DJ (2010–2014). Development and validation of innovative technologies for the improvement of quinoa and potato in the Bolivian Altiplano (Desarrollo y validación participativa de Innovaciones Tecnológicas que mejoren las estrategias de manejo sostenible de quinua y papa en el altiplano de Bolivia). McKnight Foundation, Collaborative Crop Research Program. \$650,000 (BYU: \$60,250)

Maughan PJ, Jellen EN, Udall JA (2009) International Plan & Workshops: Development of Collaborative Research Teams and Genomic Tools for Orphaned Crops of South America. NSF-OISE \$11,280

Gómez Pando LR, Aeguiluz A, Jellen EN, **Maughan PJ** (2008). Determinación de la diversidad genética de los ecotipos de quinua (*Chenopodium quinoa* Willd) del Perú usando marcadores morfológicos y moleculares. Consejo Nacional de Ciencia Tecnología e innovación tecnológica. \$10,000

Maughan PJ (2008). Andean Crop Improvement. Monsanto Company. \$10,000

Maughan PJ, Jellen EN (2008-2010). Genetic resources for orphaned crops of South America – A multi-institutional collaboration. Benson Agriculture and Food Institute. \$33,400

Maughan PJ, Jellen EN (2007). Development of Molecular Tools for Understanding the Amaranth Genome. Benson Agriculture and Food Institute. \$10,000

Fuentes FF, **Maughan PJ**, Jellen EN (2006). Innovación tecnológica y creación de una unidad de negocios para la producción mejorada de quinua en la comunidad de Ancovinto, Altiplano de la Provincia de Iquique. Gobierno de Chile Fundación para la Innovación Agraria. \$4,900

PROINPA Quinoa Research Group, and BYU Quinoa Research Group (Fairbanks DJ, Stevens MR, Jellen EN, Coleman CE, **Maughan PJ**) (2006–2010; Renewal). Sustainable production of quinoa (*Chenopodium quinoa* Wild), a neglected food crop in the Andean region. McKnight Foundation, Collaborative Crop Research Program. \$800,000 (BYU: \$114,000)

Maughan PJ, Jellen EN, Stevens MR, Coleman CE, Fairbanks DJ, Pratt DB, Brenner D (2005). Sequence tagged genetic marker development and genetic mapping in Amaranth: A multi-institutional collaborative initiative. Benson Agriculture and Food Institute. \$28,178

Maughan PJ, Blajos J, Bonifacio A, Coleman CE, Fairbanks DJ, Gandarillas A, Geary B, Jellen EN, Plata G, Rojas J, Rojas W, Saravia R, Stevens MR (2005-2007). Genetic improvement assisted by modern techniques for the competitive development of the quinoa crop. Innovated Projects of National Importance. Bolivian Ministry of Agriculture. \$497,142 (BYU: \$84,660)

Jellen EN, **Maughan PJ** (2004). Moroccan Quinoa project. Benson Agriculture and Food Institute. \$8,600

Jellen EN, **Maughan PJ**, Geary B, Coleman CE, Stevens MR, Fairbanks DJ (2004) Collaborative research proposal: marker-assisted breeding, endophyte culturing and genotyping, and anther culture. CropMark Seeds Limited, New Zealand. \$8,600

PROINPA Quinoa Research Group (A. Bonifacio and 15 others), and BYU Quinoa Research Group (Fairbanks DJ, Stevens MR, Jellen EN, Coleman CE, **Maughan PJ**) (2001–2005) Sustainable production of quinoa (*Chenopodium quinoa* Wild), a neglected food crop in the Andean region. McKnight Foundation, Collaborative Crop Research Program. \$882,143 (BYU: \$137,400)

Fairbanks D, Bonifacio A, Stevens MR, Jellen EN, Coleman CE, **Maughan PJ** (2003-2007) The quinoa project at BYU. Doug Holmes Family Foundation. \$40,000/year

Fairbanks D, Bonifacio A, Stevens MR, Jellen EN, Coleman CE, **Maughan PJ** (2003-2005) The quinoa project at BYU. Anonymous donor. \$40,000/year

Equipment Grants:

Udall JA, Hanegan NL, Harker AR, Lin C-Y, Whiting MF, **Maughan PJ** et al. (2008-2012) MRI: Aquisition of Genome Sequencer FLX system. MRI-National Science Foundation. \$833,377
Stevens MR, Coleman CE, Geary BD, Fairbanks DJ, Jellen EN, **Maughan PJ** (2006) Genomics Education Matching Funds (GEMF) – Li-Cor 4300 DNA Analysis System. Li-Cor BioSciences. \$52,102

Internal Funding:

Maughan PJ, Jellen EN (2013) Development of the First High-Density Physical Maps of *Amaranthus* – genome sequencing and insights into speciation. BYU Environment for Mentoring Grant. \$20,000
Stewart R, **Maughan PJ**, Petersen S (2012) Cultivating an undergraduate mentoring research environment by characterizing the population genetics, reproduction biology, and native distribution of a putative keystone species, *Agave utahensis* (Utah agave), in the Mojave Desert and Colorado Plateau. BYU Environment for Mentoring Grant. \$20,000
Maughan PJ, Udall JA (2011) Development of Genomic Resources for Saturation Mapping of Phytomedicinal QTLs in Bitter Melon. College of Life Sciences Supplemental Grant. \$20,000
Maughan PJ, Udall JA (2010) Development of a novel Genomic Reduction protocol for massively parallel genotyping by Next-Gen sequencing. College of Life Sciences Supplemental Grant. \$20,000
Maughan PJ, Udall JA (2010). Supplemental MEG award for 454 sequencing. \$6,500
Udall JA, **Maughan PJ**, Clement M (2009) Sequencing Red Raspberry (*Rubus idaeus*). BYU Environment for Mentoring Grant. \$20,000
Maughan PJ, Jellen EN (2009) Sequencing and Genome Mapping in the Grain Amaranths (*Amaranthus hypochondricus*). BYU Environment for Mentoring Grant. \$20,000
Maughan PJ (2008) John A. Widtsoe Fellowship grant. Structural Genomics of Oca: A vehicle for building research skills with undergraduates, while building a scientific knowledge base for an important orphan crop of S. America.: \$14,500
Maughan PJ, Udall JA (2008) Genetic dissection of triterpenoid saponin production in *Chenopodium quinoa* using microarray analysis. BYU Environment for Mentoring Grant. \$20,000
Maughan PJ, Jellen EN (2007) Bacterial Artificial Chromosome library development, characterization and utilization for *Amaranthus hypochondriacus*. BYU Environment for Mentoring Grant. \$20,000
Coleman CE, **Maughan PJ** (2007) Protein Analysis of the Quinoa Core Collection from Bolivia. BYU Environment for Mentoring Grant. \$20,000
Maughan PJ, Jellen EN, Stevens MR, Fairbanks DJ, Coleman CE (2006) Sequence tagged genetic marker development and genetic mapping in Amaranth. BYU Environment for Mentoring Grant. \$15,000
Jellen, EN, **Maughan PJ**, Geary B, Coleman CE, Stevens MR, Fairbanks DJ (2005) Phylogenetic Investigations of Quinoa and Its Wild Relatives (Genus *Chenopodium*). BYU Environment for Mentoring Grant. \$19,360
Maughan PJ, Jellen EN, Stevens MR, Fairbanks DJ, Coleman CE (2005) Structural genomics of quinoa: Construction of an EST database derived from multiple cDNA libraries. BYU Environment for Mentoring Grant. \$19,776
Coleman CE, **Maughan PJ**, Jellen EN, Stevens MR, Fairbanks DJ (2005) Collaborative research proposal: Molecular Biology and Genetics of *Chenopodium quinoa*. BYU Environment for Mentoring Grant. \$20,000
Stevens MR, **Maughan PJ**, Jellen EN, Fairbanks DJ, Coleman CE (2005) Bioinformatic Studies of a Quinoa Bacterial Artificial Chromosome (BAC) Library Utilizing Undergraduates. BYU Environment for Mentoring Grant. \$20,000
Stevens MR, **Maughan PJ**, Jellen EN, Fairbanks DJ, Coleman CE (2004) Collaborative research proposal: Mentoring Students Utilizing Cutting-Edge Diversity Array Technology (DArT) to Study the Quinoa Genome. BYU Environment for Mentoring Grant. \$19,854

Maughan PJ, Jellen EN, Stevens MR, Fairbanks DJ, Coleman CE (2004) The Quinoa Genetic Resources Project: Identification of genetic factors controlling biochemical components in quinoa seeds. BYU Environment for Mentoring Grant. \$20,000

Maughan PJ, Fairbanks DJ, Stevens MR, Jellen EN, Coleman CE (2003) The quinoa genetic mapping and transformation project. BYU Environment for Mentoring Grant. \$18,700

Jellen EN, Coleman CE, Fairbanks DJ, **Maughan PJ, Stevens MR (2003)** Cytogenetic analysis and ovule culture in *Chenopodium quinoa*. BYU Environment for Mentoring Grant. \$15,215

Coleman CE, Jellen EN, Fairbanks DJ, **Maughan PJ, Stevens MR (2003)** Comparative genomics and gene discovery in quinoa. 2003. BYU Environment for Mentoring Grant. \$17,000

Teaching Enhancement Awards:

Maughan PJ, Coleman CE (2015) – Genetics (PWS 340) – Teaching Enhancement Grant – Genetic case studies – Explorations with real data. College of Life Sciences. \$3,420

Maughan PJ, Jellen EN, Coleman CE (2012) - Genetics (PWS 340) – Teaching Enhancement Grant – Practice exam and problem set development – implemented with CTL. College of Life Sciences. \$3,420

Maughan PJ (2012) – Complex Genomes (PWS 670) - Next-generation sequencing student experience. College of Life Sciences Supplemental Grant. \$5,000

Maughan PJ, Jellen EN, Coleman CE (2011) - Genetics (PWS 340) – Teaching Enhancement Grant – development of genetics exam question database (>2000 problems). College of Life Sciences. \$2,720

Maughan PJ (2011) Molecular Plant Breeding (PWS 559) - Next-generation sequencing student experience. College of Life Sciences Supplemental Grant. \$5,000

Maughan PJ, Udall JA, Stevens MR. (2009) 454 Supplemental Class project – Hands-on next-generation sequencing instrumentation. College of Life Sciences Supplemental Grant. \$6,500

Maughan PJ. (2008) Genetics (PWS 340) course enhancement/scholarly research. GE Academy grant award. \$1,000

Coleman CE, Jellen EN, Stevens SR, **Maughan PJ, and Udall J (2006)** Genetics (Biology 340) course enhancement/scholarly research. General Education. \$15,000

Maughan PJ (2003) Course Improvement Grant – Biology 340 (2003) BYU Faculty Development Grant. \$300

Graduate Mentoring Research Awards:

Maughan PJ Graduate Mentoring Research Award (2006) The BYU genetic resources project. Graduate Research Assistance (Taylor Turner). Office of Graduate Studies, BYU. \$4,000

Coleman CE, **Maughan PJ** Graduate Mentoring Research Award (2005) The BYU genetic resources project. Graduate Research Assistance (Marie Balzotti). Office of Graduate Studies, BYU. \$4,000

Jellen EN, **Maughan PJ (2005)** Graduate Mentoring Research Award. Graduate Research Assistance (David Jarvis) Office of Graduate Studies, BYU. \$4,000

Maughan PJ, Jellen EN (2004) Graduate Mentoring Research Award. 2004 The BYU genetic resources project. Graduate Research Assistance (Marc Ricks) Office of Graduate Studies, BYU. \$4,700

ORCA/CURA Undergraduate Mentoring Grants:

Daniel Lewis (2020) SSRgenotyper: A simple sequence repeat genotyping application for whole genome resequencing and reduced representational sequencing projects. \$1,400

Angel Morris (2018) Salinity Tolerance in *C. quinoa*. ORCA \$2,000

Warren Chattwin, (2011) Genetic Diversity and Conservation of Old-Growth Cross Timbers Forest. ORCA \$1,800

Scott Smith, (2011) Genetic Mapping and Phylogeny Analysis of the Grain Amaranths using High Throughput Genotyping. ORCA \$1,800

Erin Ladle, (2009) Biocontrol of *Bromus tectorum* using fungal infections of *Ustilago bullata*. ORCA \$1,800

Jimena Alvarez, (2007) Saponin Microarray Analysis. ORCA \$1,800

Chris Nye, (2007) Identification of allelic variants encoding β -amyirin synthase in *Chenopodium quinoa* through microarray analysis. ORCA \$1,800

Reynolds DJ, (2006) Characterization of the β -amyirin Synthase gene and Saponin Biosyntheses in *Chenopodium quinoa*. ORCA \$1,800 (funded)

King BL, (2006) DNA Barcoding in *Chenopodium*. ORCA \$1,800

Reynolds DJ, (2005) Characterization of a cDNA Encoding B-Amyrin Synthase Involved in Saponin Biosyntheses in *Chenopodium quinoa* ORCA \$1500

Rampton B, (2004) Assessing Genetic Diversity in Tepary Bean Using Orthologous SSR Primers Derived from Common Bean. ORCA \$1,500

Sederberg M, (2004) Resistance Genes in *Chenopodium quinoa* ORCA \$1,500

Vincent JM, (2004) Tissue Culture of Quinoa (*Chenopodium quinoa*, Willd.) ORCA \$1500

Nelson PT, (2003) Using SSRs to Detect Polymorphisms in *Chenopodium quinoa* Willd. ORCA \$1,500