

NATALIA DE LEON

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RANK: Professor

ASSIGNMENT: Maize breeding and genetics. Appointment; 75% research, 25% teaching

EDUCATION:

2002 - University of Wisconsin, Madison - Ph.D. - Plant Breeding and Plant Genetics

2000 - University of Wisconsin, Madison - M.S. - Plant Breeding and Plant Genetics

1997 - Argentinean Catholic University (UCA) - B.S. – Agronomy

1992-1993 - Attended Sao Paulo State University (UNESP)

APPOINTMENTS:

July 2018 – present – Chair Plant Breeding & Plant Genetics Program, University of Wisconsin-Madison

July 2017 – present – Professor – Dept. of Agronomy, University of Wisconsin- Madison

July 2013 – June 2017 - Associate professor – Dept. of Agronomy, University of Wisconsin- Madison

April 2006 – June 2013 - Assistant professor – Dept. of Agronomy, University of Wisconsin- Madison

2004 – 2006 - Corn breeder/research station manager – Golden Harvest, Dansville, Michigan and Syngenta Seeds Inc., Monroeville, Indiana

2003 – 2004 - Post-doctoral research fellow – Dept. of Crop & Soil sciences, Michigan State University

1997 – 2002 - Graduate student research assistant – Dept. of Agronomy, Univ. of Wisconsin-Madison

HONORS AND AWARDS:

- Crop Science Society of America Fellow – 2020
- H.I. Romnes Faculty Fellow – 2018/19
- National Council of Commercial Plant Breeders Public Plant Breeder Award - 2017
- Technical University of Munich Institute for Advanced Study Visiting Fellow - 2015
- UW Vilas Associate Award – 2014/15
- Carl Storm Underrepresented Minority Fellowship - 2013 Gordon Research Conference in Quantitative Genetics & Genomics
- DuPont Young Professor Award – 2011/13
- UW Elton D. and Carrie R. Aberle Fellow Award – 2011/12

SYNERGISTIC ACTIVITIES:

- 1) Faculty Trainer in the Plant Breeding and Plant Genetics Program (Program Chair 2018 to present)
- 2) Member (and chair 2019-20) of the Maize Genetics Executive Committee/Board of Directors (2016 – present)

- 3) Technical editor of Journals Crop Science (2017 to present), Associated editor for Crop Science (2014-2017), Associate editor of The Plant Genome (2016 to present) and Associated Editor Theoretical and Applied Genetics (2013-2016)
- 4) Associate Chair of Agronomy Department – Plant Breeding and Genetics Group (2016 to present)
- 5) Co-lead of the “Genomes to fields: Predicting performance in variable environments” multi-state initiative organizing committee (2013 to present)
- 6) UW Representative to the Multistate Research Program NCCC-167 (2006 to present – Chair in 2011 and 2013-14)
- 7) UW Biology Major advisor - approximately 40 undergraduate advisees (2006 to present)

PROFESSIONAL ORGANIZATIONS:

American Society of Agronomy
 Crop Science Society of America
 National Association of Plant Breeders

RESEARCH PUBLICATIONS:

Publications in peer-reviewed journals:

a) Publications based on research developed since joining UW:

1. Kusmec, A., C-T Yeh, N. AlKhalifah, M.O. Bohn, E.S. Buckler, D.A. Campbell, I.A. Ciampitti, D.S. Ertl, S.A. Flint-Garcia, J. Gardiner; M.A. Gore, C.N. Hirsch, S.M. Kaeppler, J.E. Knoll, J.M. Kolkman, G.R. Kruger, N. Lauter, C.J. Lawrence-Dill, E.C. Lee, N. de Leon, S. Liu; A. Lorence, B.A. McFarland, C. Poudyal, M.C. Romay, J.C. Schnable, R.S. Sekhon, K.A.T. Silverstein, M.E. Smith, N.M. Springer, K.D. Thelen, J.G. Wallace, R.L. Walls, R.A. Walton, T. Weldekidan, D.M. Willis, R.J. Wisser, P.S. Schnable (202X) Data-driven identification of environmental variables influencing phenotypic plasticity to facilitate breeding for future climates: a case study involving grain yield of hybrid maize. *One Earth (submitted)*
2. Jarquin, D., N. de Leon, M.C. Romay, M.O. Bohn, E.S. Buckler, I.A. Ciampitti, J. Warren J. Edwards, D. Ertl, S. Flint-Garcia, M.A. Gore, C. Graham, C. Hirsch, J. Holland, D. Hooker, S.M. Kaeppler, J. Knoll, E.C. Lee, C.J. Lawrence-Dill, J. Lynch, S. Moose, S.C. Murray, R. Nelson, T.R. Rocheford, J.C. Schnable, P.S. Schnable, M. Smith, N.M. Springer, P. Thomison, M. Tuinstra, R.J. Wisser, W. Xu, J. Yu and A.J. Lorenz (202X) Utility of Climatic Information via Combining Ability Models to Improve Genomic Prediction for Yield within the Genomes to Fields Maize Project. *Frontiers in Genetics (submitted)*
3. Li, Z., S. Tirado, D. Kadam, L. Coffey, N. Miller, E. Spalding, A. Lorenz, N. de Leon, S. Kaeppler, P. Schnable, N. Springer, C. Hirsch. (2020) Characterizing introgression-by-environment interactions using maize near isogenic lines. *bioRxiv*. doi.org/10.1101/738070. *Theor. Applied Genet* <https://doi.org/10.1007/s00122-020-03630-z>
4. Li, Z., P. Zhou, R. Della Coletta, T. Zhang, A. Brohammer, B. Vaillancourt, A. Lipzen, C. Daum, K. Barry, N. de Leon, C.D. Hirsch, C.R. Buell, S. Kaeppler, N. Springer, C.N. Hirsch. 2019. Single-parent expression drives dynamic gene expression complementation in maize hybrids. *The Plant Journal (accepted)*
5. Crisp, P., R. Hammond, P. Zhou, B. Vaillancourt, A. Lipzen, C. Daum, K. Barry, N. de Leon, C.R. Buell, S. Kaeppler, B. Meyers, C. Hirsch, N. Springer (2020) Variation and inheritance of small RNAs in maize inbreds and F1 hybrids. *Plant Physiology*. 182:318-331

6. McFarland, B.A., N. AlKhalifah, M. Bohn, J. Bubert, E.S. Buckler, I. Ciampitti, J. Edwards, D. Ertl, J.L. Gage, C.M. Falcon, S. Flint-Garcia, M.A. Gore, C. Graham, C.N. Hirsch, J.B. Holland, E. Hood, D. Hooker, D. Jarquin, S.M. Kaeppler, J. Knoll, G. Kruger, N. Lauter, E.C. Lee, D.C. Lima, A.J. Lorenz, J.P. Lynch, J. McKay, N.D. Miller, S.P. Moose, S.C. Murray, R. Nelson, C. Poudyal, T. Rocheford, O. Rodriguez, M.C. Romay, J.C. Schnable, P.S. Schnable, B. Scully, R. Sekhon, K. Silverstein, M. Singh, M. Smith, E.P. Spalding, N. Springer, K. Thelen, P. Thomison, M. Tuinstra, J. Wallace, R. Walls, D. Wills, R.J. Wisser, W. Xu, C-T. Yeh, N. de Leon (2020) Maize Genomes to Fields (G2F): 2014 –2017 field seasons: genotype, phenotype, climatic, soil, and inbred ear image datasets. *BMC Research Notes* 13: 71. doi: 10.1186/s13104-020-4922-8
7. Karlen S.D., P. Fasahati, M. Mazaheri, J. Serate, R.A. Smith, S. Sirobhusanam, M. Chen, V.I. Tymokhin, C.L. Cass, S. Liu, D. Padmakshan, D. Xie, Y. Zhang, M.A. McGee, J.D. Russell, J.J. Coon, H.F. Kaeppler, N. de Leon, C.T. Maravelias, T.M. Runge, S.M. Kaeppler, J.C. Sedbrook, J. Ralph (2020) - Assessing the viability of recovering hydroxycinnamic acids from lignocellulosic biorefinery alkaline pretreatment waste streams. *ChemSusChem* 10.1002/cssc.201903345
8. Rossi, E.S. Rossi, M.C. Kuki, R.J.B. Pinto, C.A. Scapim, M.V. Faria, N. de Leon (2020) Genomic-wide association study for white spot resistance in a tropical maize germplasm. *Euphytica* 216:15 - <https://doi.org/10.1007/s10681-019-2550-y>
9. Falcon, C.M., S.M. Kaeppler, E.P. Spalding, N.D. Miller, N. Haase, N. AlKhalifah, M. Bohn, E. Buckler, D. Campbell, I.A. Ciampitti, L. Coffey, J. Edwards, D. Ertl, S. Flint-Garcia, M.A. Gore, C. Graham, C. Hirsch, J. Holland, D. Jarquin, J. Knoll, N. Lauter, C. Lawrence-Dill, E. Lee, A.J. Lorenz, J. Lynch, S.C. Murray, R. Nelson, C.M. Romay, T. Rocheford, P. Schnable, B.T. Scully, M. Smith, N. Springer, M. Tuinstra, R. Walton, T. Weldekidan, R.J. Wisser, W. Xu, N. de Leon (2019) Relative utility of agronomic, phenological, and morphological traits for assessing genotype-by-environment interaction in maize inbreds. *Crop Science* 60: 62-81. doi: 10.2135/cropsci2019.05.0294
10. White, M., M.A. Mikel, N. de Leon, S.M. Kaeppler (2019) Diversity and Heterotic Patterns in North American Proprietary Dent Maize Germplasm. *Crop Science* 60: 100-114. doi: 10.2135/cropsci2019.04.0247
11. Springer, N., N. de Leon, E. Grotewold (2019) Challenges of Translating Gene Regulatory Information into Agronomic Improvements. *Trends in Plant Science* 24: 1075-1082 - <https://doi.org/10.1016/j.tplants.2019.07.004>
12. Sekhon, R.S., C. Saski, R. Kumar, B.S. Flinn, F. Luo, T.M. Beissinger, A.J. Ackerman, M.W. Breitzman, W.C. Bridges, N. de Leon, S.M. Kaeppler (2019) Integrated Genome-Scale Analysis Identifies Novel Genes and Networks Underlying Senescence in Maize. *The Plant Cell* 31: 1968–1989 - doi: 10.1105/tpc.18.00930
13. Wu, G., N.D. Miller, N. de Leon, S.M. Kaeppler, E.P. Spalding (2019) Predicting flowering time, yield, and yield components by analyzing aerial images of *Zea mays* fields and images of kernels. *Frontiers Plant Science* 10: 1251. - 10.3389/fpls.2019.01251
14. Marand, A.P., S.H. Jansky, J.L. Gage, A.J. Hamernik, N. de Leon, J. Jiang (2019) Residual heterozygosity and epistatic interactions underlie the complex genetic architecture of yield in diploid potato. *Genetics* 212: 317-332; <https://doi.org/10.1534/genetics.119.302036>
15. Wisser, R.W., Z. Fang, J. Holland, J. Teixeira, J. Dougherty, T. Weldekidan, N. de Leon, S. Flint-Garcia, N. Lauter, S. Murray, W. Xu, and A. Hallauer (2019) The Genomic Basis for Short-Term Evolution of Environmental Adaptation in Maize. *Genetics* 213: 1479-1494 - <https://doi.org/10.1534/genetics.119.302780>

16. Gage, J.L., B. Vaillancourt, J.P. Hamilton, N.C. Manrique-Carpintero, T.J. Gustafson, K. Barry, A. Lipzen, W.F. Tracy, M.A. Mikel, S.M. Kaeppler, C.R. Buell, N. de Leon (2019) Multiple maize reference genomes impact the identification of variants by GWAS in a diverse inbred panel. *The Plant Genome* 12: 180069 - doi: 10.3835/plantgenome2018.09.0069
17. Mazaheri, M., M. Heckwolf, B. Burdo, B. Vaillancourt, J. Gage, S. Heckwolf, C. Falcoln, E. Spalding, C.R. Buell, N. de Leon, and S.M. Kaeppler (2019) Genome-wide association analysis of stalk biomass and anatomical traits in maize. *BMC Plant Biology* 19:45.
18. Kusmec A., N. de Leon, P.S. Schnable (2018) Harnessing phenotypic plasticity to improve maize yields. *Front Plant Sci*, 9: 1377.
19. Gage, J.L., N. de Leon, M.K. Clayton (2018) Comparing Genome-Wide Association Study Results from Different Measurements of an Underlying Phenotype. *G3: Genes, Genomes, Genetics* -<https://doi.org/10.1534/g3.118.200700>
20. Gage, J.L., M.R. White, J.W. Edwards, S.M. Kaeppler, and N. de Leon (2018) Selection signatures underlying dramatic male inflorescence transformation during modern hybrid maize breeding. *Genetics* 210:1125-1138. doi.org/10.1534/genetics.118.301487
21. AlKhalifah, N., D. Campbell, C.M. Falcon, J.M. Gardiner, N.D. Miller, M.C. Romay, R. Walls, R. Walton, C-T. Yeh, M. Bohn, J. Bubert, E.S. Buckler, I. Ciampitti, S. Flint-Garcia, M.A. Gore, C. Graham, C.N. Hirsch, J.B. Holland, D. Hooker, S. Kaeppler, J. Knoll, N. Lauter, E.C. Lee, A. Lorenz, J.P. Lynch, S.P. Moose, S.C. Murray, R. Nelson, T. Rocheford, O. Rodriguez, J.C. Schnable, B. Scully, M. Smith, N. Springer, P. Thomison, M. Tuinstra, R.J. Wisser, W. Xu, D. Ertl, P.S. Schnable, N. de Leon, E.P. Spalding, J. Edwards, C.J. Lawrence-Dill (2018) Maize Genomes to Fields: 2014 and 2015 field season genotype, phenotype, environment, and inbred ear image data. *BMC Research Notes* 11:452 - <https://doi.org/10.1186/s13104-018-3508-1>.
22. Gustafson, T.J., N. de Leon, S.M. Kaeppler, and W.F. Tracy (2018) Genetic analysis of sugarcane mosaic virus resistance in the Wisconsin Diversity Panel. *Crop Science* 58: 1853-1865.
23. Li, Z., L. Coffey, J. Garfin, N.D. Miller, M.R. White, E.P. Spalding, N. de Leon, S.M. Kaeppler, P.S. Schnable, N.M. Springer, C.N. Hirsch (2018) Genotype-by-environment interactions affecting heterosis in maize. *PLoS One* 13:e0191321.
24. Gage, J., D. Jarquin , M.C. Romay , A. Lorenz, E. Buckler, S. Kaeppler, N. Alkhalifah, M. Bohn, D. Campbell, J. Edwards, D. Ertl, S. Flint-Garcia, J. Gardiner, B. Good, C.N. Hirsch, J. Holland, D. Hooker, J. Knoll, J. Kolkman, G. Kruger, N. Lauter, C. Lawrence-Dill, E. Lee, J. Lynch, S. Murray, R. Nelson, J. Petzoldt, T. Rocheford, J. Schnable, P. Schnable, B. Scully, M. Smith, N. Springer, S. Srinivasan, R. Walton, T. Weldekidan, R. Wisser, W. Xu, J. Yu, N. de Leon (2017). The effect of artificial selection on phenotypic plasticity in maize. *Nature Communications* 8, 1348. doi:10.1038/s41467-017-01450-2
25. Mayer, M; S. Unterseer; E. Bauer; N. de Leon; B. Ordas; C.C. Schön (2017) Is there an optimum level of diversity in utilization of genetic resources? *Theor Appl Gen* 130: 2283–2295
26. Gage, J., N. Miller, E. Spalding, S.M. Kaeppler & N. de Leon (2017) TIPS: a system for automated image-based phenotyping of maize tassels. *Plant Methods* 13:21 doi: 10.1186/s13007-017-0172-8
27. Smith, R.A., C.L. Cass, M. Mazaheri, R.S. Sekhon, M. Heckwolf, H. Kaeppler, N. de Leon; S.D. Mansfield, S.M. Kaeppler, J.C. Sedbrook, S.D. Karlen, J. Ralph (2017) Suppression of CINNAMOYL-CoA REDUCTASE increases the level of monolignol ferulates incorporated into maize lignins. *Biotechnology for Biofuels* 10:109 doi.org/10.1186/s13068-017-0793-1

28. Li, M., D.L. Williams, M. Heckwolf, N. de Leon, S.M. Kaeppler, R.W. Sykes, D.B. Hodge (2017). Prediction of cell wall properties and response to deconstruction using alkaline pretreatment in diverse maize genotypes using py-MBMS and NIR. *Bioenerg Res.* 10: 329-343
29. de Leon, N., J.L. Jannink, J.W. Edwards and S.M. Kaeppler (2016) Introduction to a Special Issue on Genotype by Environment Interaction. *Crop Science* 56: 2081-2089
30. Hirsch, C.N., C.D. Hirsch, A.B. Brohammer, M.J. Bowman, I. Soifer, O. Barad, Do Shem-Tove, K. Baruch, F. Lu, A.G. Hernandez, C.J. Fields, C.L. Wright, K. Koehler, N.M. Springer, E. Buckler, C.R. Buell, N. de Leon, S.M. Kaeppler, K.L. Childs, M.A. Mikel (2016) Draft Assembly of Elite Inbred Line PH207 Provides Insights into Genomic and Transcriptome Diversity in Maize (*Zea mays* L.). *Plant Cell* 28: 2700–2714 doi:10.1105/tpc.16.00353
31. Miller, N., N. Haase, J. Lee, S. Kaeppler, N. de Leon, E. Spalding (2016) A robust, high-throughput method for computing maize ear, cob, and kernel attributes from images. *Plant J.* 89: 169–178. doi:10.1111/tpj.13320
32. Sekhon, R.S., M.W. Breitzman, R. Rodrigues, N. Santoro, W.L. Rooney, N. de Leon, S.M. Kaeppler (2016) Stover Composition in Maize and Sorghum Reveals Remarkable Genetic Variation and Plasticity for Carbohydrate Accumulation. *Front Plant Sci.* 7: 822. doi: 10.3389/fpls.2016.00822
33. Beissinger, T.M., M. Gholami, M. Erbe, S. Weigend, A. Weigend, N. de Leon, D. Gianola, H. Simianer (2016) Using the variability of linkage disequilibrium between subpopulations to infer sweeps and epistatic selection in a diverse panel of chickens. *Heredity* 116: 158-166. doi: 10.1038/hdy.2015.81
34. Zhang, X., C.N. Hirsch, R.S. Sekhon, N. de Leon, and S.M. Kaeppler (2016) Evidence for maternal control of seed size in maize from phenotypic and transcriptional analysis. *Journal of Experimental Botany* doi: 10.1093/jxb/erw006.
35. Jeffrey, B.D., N. Kuzhiyil, N. de Leon, T. Lübberstedt (2016) Genetic and quantitative trait locus analysis for bio-oil compounds after fast pyrolysis in maize cobs. *PLoS ONE* 11(1): e0145845. doi: 10.1371/journal.pone.0145845
36. Johnson, J.M., I. Prust, C.N. Hirsch, G. Muttoni, C.R. Buell, N. de Leon, and S.M. Kaeppler. (2016) Registration of the OhW (Oh43×W64A) Maize Recombinant Inbred Mapping Population. *J. Pl. Regis* 10: 97-100.
37. Johnson, J.M., I. Prust, C.N. Hirsch, G. Muttoni, C.R. Buell, N. de Leon, and S.M. Kaeppler. (2016) Registration of the NyH (Ny821xH99) maize recombinant inbred mapping population. *J. Pl. Regis* 10: 101-104.
38. Stelpflug, S., R.S. Sekhon, B. Vaillancourt C.N. Hirsch, C.R. Buell, N. de Leon and S.M. Kaeppler (2015) An expanded maize gene expression atlas based on RNAsequencing and its use to explore root development. *Plant Genome* 9. doi:10.3835/plantgenome2015.04.0025
39. Haase, N., T.M. Beissinger, C.N. Hirsch, C.R. Buell, S.M. Kaeppler, N. de Leon (2015) Shared Genomic Regions Between Derivatives of a Large Segregating Population of Maize Identified Using Bulk Segregant Analysis Sequencing and Traditional Linkage Analysis. *G3 journal* 5: 1593-1602. doi: 10.1534/g3.115.017665.
40. Heckwolf, S., M. Heckwolf, S.M. Kaeppler, N. de Leon, E.P. Spalding (2015) A Practical Image-Based Method for Measuring Anatomical Traits in Stalk Transections of Maize and Other Grasses. *Plant Methods* 11: 26.
41. Lorenz, A.J., T.M. Beissinger, R. Rodrigues, N. de Leon (2015) Selection for silage yield and composition did not affect genomic diversity within the Wisconsin Quality Synthetic maize population. *G3 journal* 5: 541-549

42. Beissinger, T.M., G.J.M. Rosa, S.M. Kaeppler, D. Gianola, N. de Leon (2015) Defining window-boundaries for genomic analyses using smoothing spline techniques. *Genetics, Selection and Evolution* 47: 30-38
43. Li, M., M. Heckwolf, J. Crowe, D.L. Williams, S.M. Kaeppler, N. de Leon, and D.B. Hodge (2015) Cell wall properties contributing to improved alkaline pretreatment and enzymatic hydrolysis in diverse maize lines. *J. Exp. Bot.* 66:4305-4315 - doi: 10.1093/jxb/erv016
44. Foerster, J.M., T. Beissinger, N. de Leon, S.M. Kaeppler (2014) Large Effect QTL Explain Natural Phenotypic Variation for the Developmental Timing of Vegetative Phase Change in Maize (*Zea mays* L.). *Theoretical and Applied Genetics* 128: 529-538
45. Teixeira, J., T. Weldekidan, N. De Leon, S. Flint-Garcia, N. Lauter, J. Holland, S. Murray, W. Xu, D. Hessel, A. Kleintop, J. Hawk, A. Hallauer, R. J. Wisser (2014) Hallauer's Tusón: a Decade of Selection for Tropical-to-Temperate Phenological Adaptation in Maize. *Heredity* 114: 229–240.
46. Hirsch C.N., S.A. Flint-Garcia, T.M. Beissinger, S.R. Eichten, S. Deshpande, K. Barry, M.D. McMullen, J.B. Holland, E.S. Buckler, N.M. Springer, C.R. Buell, N. de Leon, S.M. Kaeppler (2014) Insights into the Effects of Long-Term Artificial Selection on Seed Size in Maize. *Genetics* 198: 409-421.
47. Sekhon, R.S., C.N. Hirsch, K.L. Childs, M.W. Breitzman, P. Kell, S. Duvick, C.R. Buell, N. de Leon, and S.M. Kaeppler (2014) Phenotypic and transcriptional analysis of divergently selected maize populations reveals the role of developmental timing in seed size determination. *Plant Physiology* 165: 658-669.
48. Beissinger, T.M., C.N. Hirsch, B. Vaillancourt, S. Deshpande, K. Barry, C.R. Buell, S.M. Kaeppler, D. Gianola, N. de Leon (2014) Genome-wide scan for selection following thirty generations of artificial selection for increased number of ears per plant in the Golden Glow maize population. *Genetics* 196: 829-840.
49. Hirsch, C.N., J.M. Foerster, J.M. Johnson, R.S. Sekhon, G. Muttoni, B. Vaillancourt, F. Peñagaricano, E. Lindquist, M.A. Pedraza, K. Barry, N. de Leon, S.M. Kaeppler, C.R. Buell (2014) Insights into the Maize (*Zea mays* L.) Pan-Genome and Pan-Transcriptome. *Plant Cell* 26: 121-135.
50. Peiffer, J.A., S.A. Flint-Garcia, N. de Leon, M.D. McMullen, S.M. Kaeppler and E.S. Buckler (2013) The genetic architecture of maize stalk strength. *PLoS ONE* 8 (6), e67066.
51. Sekhon, R.S., R. Briskine, C.N. Hansey, C.L. Meyers, N.M. Springer, C.R. Buell, N. de Leon, S.M. Kaeppler (2013) Maize gene atlas developed by RNA sequencing and comparative evaluation of transcriptomes based on RNA sequencing and microarrays. *PLOS One* 8 (4), e61005.
52. Beissinger, T.M., C.N. Hirsch, R. Sekhon, J. Foerster, J. Johnson, G. Muttoni, B. Vaillancourt, C.R. Buell, S.M. Kaeppler, N. de Leon (2013) Marker density and read-depth for genotyping populations using next-generation sequencing approaches. *Genetics* 193: 1073-1081.
53. Yerka, M., A. Wiersma, B. Lindenmayer, P. Westra, W. Johnson, N. de Leon, D. E. Stoltenberg (2013) Reduced Translocation is Associated with Tolerance of Common Lambsquarters (*Chenopodium album*) to Glyphosate. *Weed Science* 61: 353-360.
54. Muttoni, G., N. Palacios-Rojas, L. Galicia, A. Rosales, K.V. Pixley, N. de Leon (2013) Cell wall composition and biomass digestibility diversity in Mexican maize (*Zea mays* L.) landraces and CIMMYT elite inbred lines. *Maydica* 58: 21-33.
55. Jansen, C., N. Lauter, N. de Leon, C. Hirsch, L. Ruff, T. Lübberstedt (2013) Genetic and morphometric analysis of cob architecture and biomass related traits in the intermated B73xMo17 recombinant inbred lines of maize. *BioEnergy Research* 1-14.

56. Wu, X.L., T. Beissinger, G. Rosa, K. Weigel, N. de Leon, D. Gianola (2012). Parallel Markov chain Monte Carlo - Bridging the gap to high performance Bayesian computation in animal and plant breeding. *GSE* 44(1):29.
57. Sekhon, R., C.N. Hansey, C.R. Buell, N. de Leon, S.M. Kaeppler (2012). Transcriptional and metabolic analysis of induced senescence in maize. *Plant Physiology* 159: 1730-1744.
58. Yerka, M. K., D. E. Stoltenberg and N. de Leon. (2012) Pollen-mediated gene flow in common lambsquarters (*Chenopodium album* L.). *Weed Science* 60: 600-606.
59. Muttoni, G., J.M. Johnson, N. Santoro, C.J. Rhiner, S.M. Kaeppler, N. de Leon (2012). A high-throughput core sampling device for the evaluation of maize stalk composition. *Biotechnology for Biofuels* 5:27.
60. Chia, J.M., C. Song, P.J. Bradbury, D. Costich, N. de Leon, J. Doebley, R.J. Elshire, B. Gaut, L. Geller, J.C. Glaubitz, M. Gore, K.E. Guill, J. Holland, M.B. Hufford, J. Lai, M.Li, X. Liu, Y. Lu, R. McCombie, R. Nelson, J. Poland, B.M. Prasanna, T. Pyhäjärvi, T. Rong, R.S. Sekhon, Q. Sun, M.I. Tenailon, F. Tian, J. Wang, X. Xu, Z. Zhang, S.M. Kaeppler, J. Ross-Ibarra, M.D. McMullen, E.S. Buckler, G. Zhang, Y. Xu, D. Ware (2012). Maize HapMap2 identifies extant variation from a genome in flux. *Nature Genetics* 44(7):803-7.
61. Zystro, J.P, N. de Leon and W. F. Tracy (2012). Analysis of Traits Related to Weed Competitiveness in Sweet Corn (*Zea mays* L.). *Sustainability* 4:543-56.
62. Howard, N.P. and D. Stimart, N. de Leon, M.J. Havey, W. Martin (2012). Diallel Analysis of Floral Longevity in *Impatiens walleriana*. *J. Amer. Soc. Hort. Sci.* 137: 47-50.
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POSTER ABSTRACTS:

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3. McFarland, B.A., S.M. Kaeppler, N. de Leon (2020) Influence of Selection on Performance Stability in the Maize BSSS Population. XXVIII Plant & Animal Genome Meeting, San Diego, CA, January 11-15, 2020.
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63. Mayer, M., S. Unterseer, E. Bauer, N. de Leon, B. Ordás, C. C. Schön (2016) Characterization of genetic diversity, population structure and linkage disequilibrium within and across 35 European maize landraces using high density genomic data. 5th International Conference on Quantitative Genetics. Monona Conference Center. Madison, WI, June 12-17, 2016
64. Mazaheri, M., B. Vaillancourt, J. Gage, N. de Leon, M. Mayer, C. R. Buell, S. M. Kaeppler (2016) An expanded Wisconsin maize diversity panel and its application in GWAS of flowering time
65. Wisser, R. J., Z. Fang, J. E. C. Teixeira, J. Dougherty, T. Weldekidan, N. de Leon, S. Flint-Garcia, N. Lauter, S. Murray, W. Xu, A. Hallauer, J. Holland (2016) A shifting genetic architecture underlies selection response for flowering time adaptation in maize. 5th International Conference on Quantitative Genetics. Monona Conference Center. Madison, WI, June 12-17, 2016
66. White, M., M. Mazaheri, J. Gage, M. Mikel, N. de Leon, S. Kaeppler (2016) Investigating kinship and heterotic relationships of expired maize plant variety protection lines. 5th International Conference on Quantitative Genetics. Monona Conference Center. Madison, WI, June 12-17, 2016
67. Renk, J., C. Anibas, J. Gage, S. M. Kaeppler, N. de Leon (2016) Phenotypic variation and genetic dissection of silage yield and compositional traits in recombinant inbred testcrosses in Maize. (*Zea mays* L.). 5th International Conference on Quantitative Genetics. Monona Conference Center. Madison, WI, June 12-17, 2016
68. Vaillancourt, B., I. Beddows, A. B. Brohammer, C. D. Hirsch, M. Wang, K. Barry, N. de Leon, S. M. Kaeppler, C. N. Hirsch, R. C. Buell (2016) Diversity of transcriptome regulatory networks in maize and association with biomass and biofuel traits. 11th Annual DOE Joint Genome Institute. Genomics of Energy and Environment Meeting. Walnut Creek, CA, March 21-24, 2016
69. Mazaheri, M., B. Vaillancourt, J. Gage, N. de Leon, M. Mayer, K. Barry, R. C. Buell, S. Kaeppler (2016) Expanding the Wisconsin diversity panel to improve GWAS of biofuel traits in maize. 11th Annual DOE Joint Genome Institute. Genomics of Energy and Environment Meeting. Walnut Creek, CA, March 21-24, 2016
70. Manching, H. K., M. Dumas, S. Sengupta, Y. Ji, N. de Leon, Natalia, S. Flint-Garcia, J. Holland, N. Lauter, S. Murray, W. Xu, R. J. Wisser (2016) Investigating the genetic basis of parallel response to selection for early flowering time in the Tropics. 58th Maize Genetics Conference. Hyatt Regency. Jacksonville, FL March 17-20, 2016
71. Burdo, B., N. de Leon, S.M. Kaeppler (2016) The Effect of Crossing Strategy on Genomic Prediction in Maize. 58th Maize Genetics Conference. Hyatt Regency. Jacksonville, FL March 17-20, 2016
72. Anibas, C., S.M. Kaeppler, N. de Leon (2016) Identification of Genetic Background Modifiers of the Maize *brown midrib3 (bm3)* Mutant. 58th Maize Genetics Conference. Hyatt Regency. Jacksonville, FL March 17-20, 2016

73. Gage, J., N. Miller, E. Spalding, S.M. Kaeppler, N de Leon (2016) High-throughput Image-based Phenotypic Analysis of Tassel Morphology in Maize. 58th Maize Genetics Conference. Hyatt Regency. Jacksonville, FL March 17-20, 2016
74. Mazaheri, M., B. Vaillancourt, J. Gage, N. de Leon, C.R. Buell, S.M. Kaeppler (2016) Expanding the Wisconsin diversity panel to improve GWAS in maize. 58th Maize Genetics Conference. Hyatt Regency. Jacksonville, FL March 17-20, 2016
75. Brohammer, A.B., I Beddows, B. Vaillancourt, C.D. Hirsch, N. de Leon, S.M. Kaeppler, C.R. Buell, C.N. Hirsch (2016) Relationship between genome and transcriptome variation and the predictive capacity of the pan transcriptome to the pan genome. 58th Maize Genetics Conference. Hyatt Regency. Jacksonville, FL March 17-20, 2016
76. Renk, J., C. Anibas, J. Gage, S.M. Kaeppler, N. de Leon (2016) Phenotypic variation and genetic dissection of silage yield and compositional traits in recombinant inbred testcrosses in maize (*Zea mays* L.). 58th Maize Genetics Conference. Hyatt Regency. Jacksonville, FL March 17-20, 2016
77. de Leon, N., D. Jarquin, M.C. Romay, J. Gage, S. Kaeppler, E.S. Buckler, A.J. Lorenz, G2F Consortium (2016) The Effect of Artificial Selection on Phenotypic Plasticity: The Genotype by Environment Interaction Project in Maize. 58th Maize Genetics Conference. Hyatt Regency. Jacksonville, FL March 17-20, 2016
78. Sekhon, R., S. Alford, C.R. Buell, N. de Leon, S.M. Kaeppler (2016) Dissecting the Role of Source-Sink Cross-talk in Regulation of Senescence Using a Systems Genetics Approach. 58th Maize Genetics Conference. Hyatt Regency. Jacksonville, FL March 17-20, 2016
79. Mayer, M., S. Unterseer, E. Bauer, N. de Leon, C.C. Schoen (2016) Characterization of genetic diversity, population structure and linkage disequilibrium within and across 35 European maize landraces using high-density genomic data. 58th Maize Genetics Conference. Hyatt Regency. Jacksonville, FL March 17-20, 2016
80. Stelpflug, S.C., N. Miller, E. Spalding, N de Leon, S.M. Kaeppler (2016) Integrating 'omics' data to reveal genotype-phenotype associations underlying maize seed imbibitions traits. 58th Maize Genetics Conference. Hyatt Regency. Jacksonville, FL March 17-20, 2016
81. Lee, E. A.; G2F (2016) Consortium2Genomes to Fields' Maize GxE Project: Expression of Productivity and Phenological Traits Across a Diverse Set of Environments. 58th Maize Genetics Conference. Hyatt Regency. Jacksonville, FL March 17-20, 2016
82. Sekhon, R., C.R. Buell, N. de Leon. S.M. Kaeppler (2016) A Systems Approach to Investigate the Role of Source-Sink Communications in Senescence in Maize. XXIV Plant & Animal Genome Meeting, San Diego, CA, January 8-13, 2016.
83. Kaeppler, S.M., N. Miller, S.C. Stelpflug, E. Spalding, J. Lynch, N. de Leon. Phenes and Phenotyping in Maize for Gene Discovery and Breeding. XXIV Plant & Animal Genome Meeting, San Diego, CA, January 8-13, 2016.
84. de Leon, N., D. Jarquin, M.C. Romay, J. Gage, S. Kaeppler, E.S. Buckler, A.J. Lorenz, G2F Consortium (2016) The Effect of Artificial Selection on Phenotypic Plasticity: The Genotype by Environment Interaction Project in Maize. XXIV Plant & Animal Genome Meeting, San Diego, CA, January 8-13, 2016.
85. Warburton, M.L., W.P. Williams, G.L. Windham, F.O. Ogunola, L. Hawkins, S.C., S.M. Kaeppler, N. de Leon, P. Dowd, Z. Chen, G. Mahuku, S. Mideros (2015) Validation of Sequences Linked to Aflatoxin Accumulation Reduction in Maize. ASA, CSSA, and SSSA Annual Meeting, Minneapolis, MN, November 15-18, 2015.

86. Haase, N., N.D. Miller, E.P. Spalding, S.M. Kaeppler, N. de Leon (2015) Image-Based Precision Phenotyping of Maize Ear Morphology and Kernel Size. DROPS Conference: Recent progress in drought tolerance: from genetics to modeling. Montpellier, France, June 8-9, 2015.
87. Heckwolf, M., G. Muttoni, N. Santoro, S. Cantu, C.N. Hirsch, B. Vaillancourt, C.R. Buell, N. de Leon, S.M. Kaeppler (2015) Genomic Science Contractors-Grantees Meeting XIII/USDA-DOE Plant Feedstock Genomics for Bioenergy Meeting - Sheraton Tysons Hotel. Tysons, Virginia, February 22-25, 2015.
88. Gage, J., C.N. Hirsch, S.M. Kaeppler, N. de Leon (2015) Genome-Wide Association Analysis of Tassel Size and Branch Number in the Wisconsin Diverse Association Panel. 57th Maize Genetics Conference. Pheasant Run Resort. St Charles, IL, March 12-15, 2015.
89. Fang, Z., J. Teixeira, T. Weldekidan, M. Patzold, N. de Leon, S. Flint-Garcia, N. Lauter, S. Murray, W. Xu, A. Hallauer, J. Holland, R. J. Wissler (2015) A tropical genome with a temperate phenome: inference on the genetic architecture of tropical-to-temperate maize adaptation. 57th Maize Genetics Conference. Pheasant Run Resort. St Charles, IL, March 12-15, 2015.
90. Haase, N., N.D. Miller, E.P. Spalding, S.M. Kaeppler, N. de Leon (2015) Image-based precision phenotyping of maize ear morphology and kernel size. 57th Maize Genetics Conference. Pheasant Run Resort. St Charles, IL, March 12-15, 2015.
91. Zhang, X., C.N. Hirsch, R.S. Sekhon, N. de Leon, S.M. Kaeppler (2015) Transcriptional regulation and maternal effect underlying the control of seed size in the Krug inbreds and hybrids. 57th Maize Genetics Conference. Pheasant Run Resort. St Charles, IL, March 12-15, 2015.
92. Stelpflug, S.C., R. Sekhon, B. Vaillancourt, C.N. Hirsch, C.R. Buell, N. de Leon, S.M. Kaeppler (2015) The expanded RNA-seq maize gene atlas: A focus on root development. 57th Maize Genetics Conference. Pheasant Run Resort. St Charles, IL, March 12-15, 2015.
93. Sekhon, R, W. Poehlman, N. de Leon, S.M Kaeppler (2015) Investigation of mechanisms governing senescence in maize through a systems-oriented approach. 57th Maize Genetics Conference. Pheasant Run Resort. St Charles, IL, March 12-15, 2015.
94. Hirsch, C.N., C.D. Hirsch, A. Brohammer, M.J. Bowman, K.L. Childs, I. Soifer, O. Barad, C.R. Buell, N. de Leon, M.A. Mikel, S.M. Kaeppler (2015) Comprehensive De Novo genome Assemblies and Resequencing of Diverse Individuals Provides Insights into Structural Diversity and the Relationship with Transcriptional Diversity in Maize. XXIII Plant & Animal Genome Meeting, San Diego, CA, January 10-14, 2015
95. Hirsch, C.N., C.D. Hirsch, A. Brohammer, M. Bowman, K. Childs, I. Soifer, O. Barad, C.R. Buell, N. de Leon, S.M. Kaeppler, M.A. Mikel (2015) Insights into the relationship between structural diversity and transcriptional diversity in maize. American Society of Plant Biologists Annual Meeting – Plant Biology. Minneapolis Convention Center, Minneapolis, MN, July 26 – 30, 2015.
96. Hirsch, C.N., R. S. Sekhon, S. Stelpflug, S.M. Kaeppler, N. de Leon, C.R. Buell, J. Foerster, G. Muttoni, N.M. Springer, R. Briskine, C. Myers, and B. Vaillancourt. (2014) From seed to senescence: Transcriptome tools to understand maize development, physiology, and phenotypic diversity. 56th Maize Genetics Conference. Beijing, China, March 13-16, 2014.
97. Zhang, X., R. S. Sekhon, N. de Leon, and S.M. Kaeppler. (2014) Developmental processes controlling seed size in maize evaluated in the Krug seed size populations and derived inbreds. 56th Maize Genetics Conference. Beijing, China, March 13-16, 2014.
98. Kaeppler, S., M. Casler, C.R. Buell, C. Hirsch, J. Evans, J. Kim, B. Vaillancourt, E. Crisovan, and N. de Leon. (2014) Analysis of natural variation in switchgrass and maize at GLBRC. XXII Plant & Animal Genome Meeting. San Diego, CA, January 11-15, 2014.

99. Haase, N., T. Beissinger, C. Hirsch, C.R. Buell, S.M. Kaeppler, and N. de Leon. (2013) Utilizing bulk-segregant analysis for the detection of quantitative trait loci (QTL) in a large population of diverse individuals. Joint International Sweet Corn Development Association (ISCD) and the Corn Breeding Research (CBR-NCCC167) Annual Meeting, Chicago, IL, December 9 and 10, 2013.
100. Beissinger, T., D. Gianola, N. de Leon (2013) Defining data-driven boundaries for window analyses with smoothing spline techniques. Impact of Large-Scale Genomic Data on Statistical and Quantitative Genetics Conference. University of Washington, Seattle, WA. November 24-26, 2013
101. Hirsch, C.N., J.M. Foerster, J.M. Johnson, R.S. Sekhon, G. Muttoni, B. Vaillancourt, F. Penagaricano, N. de Leon, S.M. Kaeppler, C.R. Buell. (2013) Natural and genetic variation controlling vegetative and floral transition in the context of the maize pan genome and pan transcriptome. GLBRC Science Retreat, South Bend, IN, May 22-24, 2013
102. Sekhon, R.S., M. Breitzman, C.N. Hirsch, C.R. Buell, N. de Leon, S.M. Kaeppler, (2013) Systems approaches to understand the role of source-sink relationships in senescence. 55th Maize Genetics Conference. St Charles, IL, March 14-17
103. Haase, N.J., T.M. Beissinger, J.M. Foerster, Muttoni G., J.M. Johnson, C.N. Hirsch, B. Vaillancourt, C.R. Buell, S.M. Kaeppler, N. de Leon (2013) Genetic Dissection of Quantitative Traits Using a Bulk and Resequencing Method on a Large Segregating Population of Maize. 55th Maize Genetics Conference. St Charles, IL, March 14-17
104. Beissinger, T.M., C.N. Hirsch, B. Vaillancourt, C.R. Buell, S.M. Kaeppler, D. Gianola, N. de Leon (2013) Genomic impact of artificial selection for number of ears per plant in maize. 55th Maize Genetics Conference. St Charles, IL, March 14-17
105. Muttoni G., J.M. Foerster, J.M. Johnson, N.J. Haase, T.M. Beissinger, S.C. Stelpflug, C.N. Hirsch, R.S. Sekhon, C.R. Buell, S.M. Kaeppler, N. de Leon (2013) Phenotypic and Genetic Dissection of Maize Internode Length. 55th Maize Genetics Conference. St Charles, IL, March 14-17
106. Rogers, K.G, T. Weldekidan, G. Muttoni, N. de Leon, S. Flint-Garcia, J. Brewer, D. Horne, J. Holland, N. Lauter, S. Murray, W. Xu, R. Wisser (2013) Parallel Selection Experiment Aimed at Elucidating the Genetic Architecture of Tropical to Temperate Adaptation. 55th Maize Genetics Conference. St Charles, IL, March 14-17
107. Salgado, C., C.D. Cruz, N. de Leon (2013) Comparative analysis of the inheritance of binary traits using phenotypic and molecular marker information. 55th Maize Genetics Conference. St Charles, IL, March 14-17
108. Teixeira, J., A. Kleintop, T. Weldekidan, N. de Leon, S. Flint-Garcia, J. Holland, N. Lauter, S. Murray, W. Xu, D. Hessel, R. Wisser (2013) Environmental and genetic dissection of flowering time in a population subjected to a decade of temperature adaptation. 55th Maize Genetics Conference. St Charles, IL, March 14-17
109. Lorenz, A.J., N. de Leon (2013) Optimal resource allocation for a maize genomic recurrent selection program. 55th Maize Genetics Conference. St Charles, IL, March 14-17
110. Muttoni G., J.M. Foerster, N.J. Haase, R.S. Sekhon, J.M. Johnson, T.M. Beissinger, S.C. Stelpflug, S.M. Kaeppler, N. de Leon (2013) Phenotypic and Genetic Dissection of Maize Internode Length. Genomic Science Annual Contractor-Grantee Meeting/USDA-DOE Plant Feedstock Genomics for Bioenergy Program Meeting, Bethesda, MD, February 24-27
111. Muttoni G., J.M. Foerster, N.J. Haase, R.S. Sekhon, J.M. Johnson, T.M. Beissinger, S.C. Stelpflug, S.M. Kaeppler, N. de Leon (2013) Phenotypic and Genetic Dissection of Maize

Internode Length. Gordon Research Conference in Quantitative Genetics and Genomics, Galveston, TX, February 17-22

112. Johnson, J., C. Hansey, C.R. Buell, N. de Leon, S. Kaeppler (2012) Genetic Map Construction with Incomplete Marker Information in Maize. ASA, CSSA, SSSA International Annual Meeting. Cincinnati, OH. October 21-24.
113. Muttoni G., J.M. Foerster, N.J. Haase, R.S. Sekhon, J.M. Johnson, T.M. Beissinger, S.C. Stelpflug, S.M. Kaeppler, N. de Leon (2012) Phenotypic and Genetic Dissection of Maize Internode Length. ASA, CSSA, SSSA International Annual Meeting. Cincinnati, OH. October 21-24.
114. Beissinger, T., C.N. Hansey, J. M. Foerster, R. Sekhon, J. M. Johnson, G. Muttoni, B. Vaillancourt, C. R. Buell, S. M. Kaeppler, N. de Leon (2012). Empirical observations of genotyping by sequencing in maize diverse inbreds and recombinant inbred populations. Maize Genetics Conference. Portland, OR, March 15-18.
115. Wissner, R., N. de Leon, S. Flint-Garcia, J. Holland, N. Lauter, S. Murray, W. Xu, T. Weldekidan, J. Teixeira, Y. Veturi, N. Kumar, K. Rogers, J. Reiner, R. Kanchi, L. Peddicord, M. Lopez (2012). The Maize ATLAS project: implementation of an experimental framework for studying adaptation. Maize Genetics Conference. Portland, OR, March 15-18.
116. Muttoni, G, J.M. Johnson, N. Santoro, S.M. Kaeppler and N. de Leon (2012). A high-throughput stalk-core sampling device for the evaluation of maize biomass composition. Maize Genetics Conference. Portland, OR, March 15-18.
117. Sekhon, R.S., C. Hansey, K. Childs, R. Briskine, R. J. Schaefer, C. L. Myers, N. Springer, C. R. Buell, N. de Leon and S. M. Kaeppler (2012). An RNA sequencing and microarray-based gene atlas for the maize community. Maize Genetics Conference. Portland, OR, March 15-18.
118. Foerster, J., C. Hansey, E. Rledeman, T. Beissinger, R.S. Sekhon, W.F. Tracy, H.F. Kaeppler, N. de Leon, S. M. Kaeppler (2012). Large Effect QTL Explain Natural Phenotypic Variation for the Developmental Timing of Vegetative Phase Change in Maize. Maize Genetics Conference. Portland, OR, March 15-18.
119. Beissinger, T., C. Hansey, R. Sekhon, B. Vaillancourt, C. R. Buell, S. M. Kaeppler, N. de Leon (2012). Dissecting the genetic control of seed size by analysis of the Krug divergently selected maize populations. NCCC-167 Corn Breeding Meeting. Portland, OR, March 14-15.
120. Haase, N., J. Foerster, T. Beissinger, S. M. Kaeppler, N. de Leon (2012). Theoretical Implications of Utilizing Bulk Segregant Analysis for the Detection of Quantitative Trait Loci in a Large Synthetic Maize Population (IBM Syn14). NCCC-167 Corn Breeding Meeting. Portland, OR, March 14-15.
121. Sekhon, R., K. Childs, N. Santoro, C. Foster, C. R. Buell, N. de Leon, S.M. Kaeppler (2012). Metabolic and transcriptional changes during induced senescence in maize. DOE Genomic Sciences Awardees Meeting, February 25-28, Washington, D.C.
122. Teixeira, J., T. Weldekidan, Y. Veturi, K. Rogers, J. Reiner, N. Kumar, R. Kanchi, L. Peddicord, M. Lopez, N. de Leon, S. Flint-Garcia, J. Holland, N. Lauter, S. Murray, W. Xu and R. J. Wissner (2012). The Maize ATLAS project: Implementation of an Experimental Framework for Studying Adaptation. Plant and Animal Genome XX Conference, Town & Country Hotel in San Diego, CA, January 14-18.
123. Thompson, A. M., L. Li, J. E. Crants, J. Foerster, N. de Leon, S. Kaeppler, N. M. Springer, P. S. Schnable, M. Timmermans, J. Yu, M. Scanlon and G. Muehlbauer (2012). Genetic Control of Natural Variation in Maize Shoot Apical Meristem Architecture. Plant and Animal Genome XX Conference, Town & Country Hotel in San Diego, CA, January 14-18.

124. Wu, X. L., O. Hayrettin, H. Duan, T. Beissinger, S. Bauck, B. Woodward, G. J. M. Rosa, K. A. Weigel, N. de Leon and D. Gianola (2012). Parallel-BayesCpC on OSG: grid-enabled high-throughput computing for genomic selection in practice. Plant and Animal Genome XX Conference, Town & Country Hotel in San Diego, CA, January 14-18.
125. de Leon, N., S. Kaeppler, R. Sekhon, C. Hansey, R. Buell, K. Childs, H. Lin (2011). Exploitation of endogenous variation for the identification of genes and pathways associated with enhanced biofuel production in maize. Genomic Science Contractor-Grantee Meeting/USDA-DOE Plant Feedstock Genomics Bioenergy Awardeed Meeting. US DOE, Office of Biological Environmental Research. Hyatt Regency Cristal City, April 10-13.
126. Lorenz, A. and N. de Leon (2011). Effect of model and training population on genomic selection for multiple traits in maize. Maize Genetics Conference. St Charles, IL, March 17-20.
127. Beissinger, T., N. de Leon and S. M. Kaeppler (2011). Effect of allele frequency changes on the ability to detect loci of genetic importance in the Golden Glow maize population long term selection. Maize Genetics Conference. St Charles, IL, March 17-20.
128. Sekhon, R., N. Santoro, E. Rothfusz, N. de Leon, S. Kaeppler (2011). Transcriptional and metabolic changes during induced senescence in maize. Maize Genetics Conference. St Charles, IL, March 17-20.
129. Sekhon, R., N. Santoro, E. Rothfusz, N. de Leon, S. Kaeppler (2011). Metabolic reprogramming and genetic variation associated with pre-mature senescence in maize. NCCC-167 Corn Breeding Meeting. St Charles, IL, March 16-17.
130. Hansey, C. N., R. S. Sekhon, J. M. Johnson, C. R. Buell, S. M. Kaeppler, N. de Leon (2011). Genetic Diversity of a Maize Association Population with Restricted Phenology. Gordon Research Conference – Quantitative Genetics. Galveston, TX, February 20-25.
131. Foerster, J., N. de Leon, C. Hansey, E. Riedeman, R. Sekhon, W. Tracy, H. Kaeppler and S. Kaeppler (2010). Genetic Architecture of Vegetative Phase Change in Maize. ASA-CSSA-SSSA International Meetings, Long Beach, CA, October 31 - November 3.
132. Sekhon, R., H. Lin, K. Childs, C.R. Buell, C. Hansey, N. de Leon and S. Kaeppler (2010). Dynamics of Lignin Pathway Gene Expression During Maize Development. ASA-CSSA-SSSA International Meetings, Long Beach, CA, October 31 - November 3.
133. Hansey, C. and N. de Leon (2010). Effect of Plant Morphology and Planting Methodology On Biomass Production and Compositional Characteristics in Maize. ASA-CSSA-SSSA International Meetings, Long Beach, CA, October 31 - November 3.
134. Johnson, J.M, S. Kaeppler and N. de Leon (2010). Approaches to Association Analysis In a Hybrid Context In Maize. ASA-CSSA-SSSA International Meetings, Long Beach, CA, October 31 - November 3.
135. Yerka, M., D. Stoltenberg and N. de Leon (2010). The Role of Gene Flow In the Spread of *Chenopodium album* Resistance to Herbicides. ASA-CSSA-SSSA International Meetings, Long Beach, CA, October 31 - November 3.
136. Kaeppler, S., C. Hansey, J. Johnson, R. Sekhon and N. de Leon (2010). Resources for maize association analysis. NCCC-167 Corn Breeding annual meeting. Sheraton Four-Points Hotel. Chicago IL, April 6-7.
137. Foerster, J., C. Hansey, E. Riedeman, R. Sekhon, W.F. Tracy, N. de Leon and S. Kaeppler (2010). Genetic architecture of vegetative phase transition in maize. Maize Genetics Conference. Riva del Garda, Italy. March 18 – 21.

138. Hansey, C., J. Johnson, R. Sekhon, S. Kaeppler and N. de Leon (2010). Genetic diversity of a Maize Association Population with Restricted Phenology. Maize Genetics Conference. Riva del Garda, Italy. March 18 – 21.
139. Sekhon, R., H. Lin, K. Childs, R. Buell, C. Hansey, N. de Leon and S. Kaeppler (2010). Genome-wide atlas of gene transcription through maize development from germinating seed to maturing seed. Maize Genetics Conference. Riva del Garda, Italy. March 18 – 21.
140. Viesselmann, L.M., M.A. Chandler, C. Hansey, A.L. Bodnar, N. de Leon., S. Kaeppler, M.P. Scott and W. Tracy (2010). Differential zein protein levels in *su1* populations divergently selected for visual endosperm starchiness. Maize Genetics Conference. Riva del Garda, Italy. March 18 – 21.
141. Zalapa, J.E., M.D. Casler, S.M. Kaeppler, N. de Leon and C.M. Tobias (2010). EST-SSR Markers discriminate switchgrass ecotypes. 2010 Genomic Science Contractor-Grantee and Knowledgebase Workshop. Crystal City, VA, February 7-10.
142. Lauer, J.G., R.D. Shaver, J.G. Coors, P. Hoffman and N. de Leon (2009). Evaluating performance of corn hybrids for silage production on Wisconsin farms. The XVth International Silage Conference, Madison, WI, July 27-29.
143. Hansey, C.N., E. Riedeman, R. Sekhon, W. Tracy, N. de Leon and S. Kaeppler (2009). The Genetic Architecture of Vegetative Phase Change. NCCC-167 Corn Breeding Meeting, Allerton Conference Center, Monticello IL, March 10-12.
144. Hansey, C.N., A. Lorenz and N. de Leon (2009). Variation for compositional attributes of maize plant parts across hybrids and associations between plant development stages. NCCC-167 Corn Breeding Meeting, Allerton Conference Center, Monticello IL, March 10-12.
145. Gustafson, T.J., J.G. Coors and N. de Leon (2009). Breeding maize for enhanced silage quality: aspects of stover and grain improvement. NCCC-167 Corn Breeding Meeting, Allerton Conference Center, Monticello IL, March 10-12.
146. Lorenz, A.J., T.J. Gustafson, J.G. Coors and N. de Leon (2009). Is Harvest Index Related to Maize Productivity? NCCC-167 Corn Breeding Meeting, Allerton Conference Center, Monticello IL, March 10-12.
147. Hansey, C.N. and N. de Leon (2009). Effect of Plant Morphology and Planting Methodology on Biomass Production and Compositional Characteristics in Maize. Maize Genetics Conference. St. Charles, IL. March 12 - 15.
148. Gustafson, T., N. de Leon, and J.G. Coors (2008). Evaluation of Selection for Silage Quality in Wisconsin Quality Synthetic and Connections to Maize Biofeedstock Breeding. ASA-CSSA-SSSA International Meetings, Houston, TX, October 5 - 9.
149. Lorenz, A. and N. de Leon (2008). Variation for compositional attributes of maize plant parts across hybrids and associations between plant developmental stages. The Pan American Congress on Plants & BioEnergy. Merida, Mexico, June 22 – 25.
150. Lorenz, A., N. de Leon and J. G. Coors (2008). Analysis and inheritance of maize traits related to cellulosic biofuels production. The Pan American Congress on Plants & BioEnergy. Merida, Mexico, June 22 -25.
151. Hansey C., and N. de Leon (2008). Axillary meristem development of a variable penetrance maize mutant, *grassy tillers1*. Maize Genetics Conference. Washington, DC. February 27-March 2.

INVITED PRESENTATIONS (* INDICATES PRESENTER):

de Leon, N.* The University of Wisconsin Plant Breeding and Plant Genetics Program: Training Future Plant Breeders in the Era of Social Media and Big Data. Bayer Crop Science Invited Presentation Series. St Louis, MO, January 16, 2020.

McFarland, B.A*, G2F Consortium, N. de Leon. Data Resources and Implementation for the Genomes to Fields (G2F) Initiative. Big Data: Manage your data before your data kills you Workshop. XXVIII Plant & Animal Genome Meeting, San Diego, CA, January 11-15, 2020.

de Leon, N* Genetic Improvement of Plants in the Era of Big Data. Women in Science and Engineering Seminar Series. University of Wisconsin, Madison, WI, October 8, 2019

de Leon, N* Updated on the Genomes to Fields GXE Project. Genome to Phenome Briefing & Hill Meeting, Washington, DC, July 19, 2019

de Leon, N* Genetic Improvement of Plants – Challenges and Opportunities. UW Advance Program Seminar Series. Division of Continuing Studies. Madison, WI, July 10, 2019

de Leon, N*. The Genomes to Fields G X E Project: Progress and Perspective. Undergraduate Phenotyping of Arabidopsis Knockouts E-Seminar, June 25, 2019

de Leon, N*. IAA/GEMS and G2F Partnership. IAA 4.0 Workshop - University of Minnesota St. Paul Campus, St. Paul, MN, May 29, 2019

de Leon, N*. Artificial Selection and the Genetic Dissection of Complex Traits in Maize. A New Era for the Green Revolution: Women in Agriculture. 4th Biennial Plant Breeding and Genetics Symposium, Kansas State University, Manhattan, KS, April 4, 2019

de Leon, N*. Artificial Selection and the Genetic Dissection of Complex Traits in Maize. Plant Breeding Seminar Series, Iowa State University, Ames, IA, April 24, 2019

de Leon, N*. The Genomes to Fields G X E Project: Progress and Perspective. Phenome 2019 Conference, Hilton El Conquistador Resort, Tucson, AZ, February 6 to 9, 2019

Kaeppler, S.M.*, M. White, N. de Leon. Heterosis in Maize - Theoretical Models and Empirical Observations. Hybridization, Heterosis and Balancing Selection Workshop. XXVII Plant & Animal Genome Meeting, San Diego, CA, January 12-16, 2019.

Kaeppler, S.M.*, X. Zhang, K. Michel, N.D. Miller, E.P. Spalding, N. de Leon. Maternal and Zygotic Effects on Kernel Size in Maize. Seed Genomics Workshop. XXVII Plant & Animal Genome Meeting, San Diego, CA, January 12-16, 2019.

de Leon, N* - Genetic Improvement of Plants – Challenges and Opportunities. UW Advance Program Seminar Series. Division of Continuing Studies. Madison, WI, October 10, 2018

de Leon, N* - Artificial Selection and the Genetic Architecture of Economically Important Traits in Maize. II International Meeting on Plant Breeding. Advances in Experimental Design and Statistical Analysis in Genetics and Plant Breeding. Piracicaba, SP, Brazil, October 3-4, 2018

de Leon, N* - The Role of Artificial Selection and Multiple Reference Genomes in the Dissection of the Genetic Architecture of Complex Traits in Maize. Plant Breeding Seminar Series, Department of Soil & Crop Sciences, Texas A&M University. College Station, TX, September 13th, 2018

de Leon, N* - Maize Breeding and Quantitative Genetics. Maize Functional Genomics Tools & Resources. NSF-RCN Meeting, Madison, WI, September 19-21, 2018

de Leon, N*. Challenges and Opportunities for the Practical Application of Genetic Evaluation Methodologies. New Frontiers in Genetics Evaluation, Corteva Agriscience, Johnston, IA, July 25-27, 2018

de Leon, N*. Connecting Genotypes and Phenotypes in a Complex Genome, the Example of Maize. North Carolina State University Genetics Program Seminar Series. Raleigh, NC, March 12, 2018

de Leon, N*, J. Gage, N. Haase, C. Falcon, E. Spalding, N. Miller, S. Kaeppler, G2F Consortium. High-Throughput Phenotyping Tools to Increase Breeding Efficiency in Maize. Livestock High-

- Throughput Phenotyping and Big Data Analytics. USDA National Agricultural Library. Beltsville, MD, November 13-14, 2017
- de Leon, N*. How Do Advances in Corn Breeding Improve the Corn for Silage? World Dairy Expo, Dairy Forage Seminar Stage, Madison, WI, October 5, 2017
- de Leon, N*. & S.M. Kaeppler. Big Data in Plant Science: The UW Maize Breeding and Genetics Program. CALS Big Data and Ecoinformatics in Agricultural Research. University of Wisconsin Union South, Madison, WI, April 27, 2017
- de Leon, N* Genetic Improvement of Maize for Bioenergy Production. Sustainable Energy Challenges and Solutions. Wisconsin Energy Institute, Madison, WI, April 24, 2017
- Mazaheri, M.*, B. Burdo, M. Heckwolf, B. Vaillancourt, J. Gage, C.R. Buell, N. de Leon, S.M. Kaeppler. *Zmm22* gene in maize has pleiotropic effects on traits important for the production of food, feed, and fuel. 59th Maize Genetics Conference. Union Station of St. Louis, Missouri, March 9-12, 2017
- de Leon, N*, J. Gage, D. Jarquin, M.C. Romy, S.M. Kaeppler, E.S. Buckler, A.J. Lorenz, G2F Consortium. The Genomes to Fields Maize G X E Project: 2017 Season Update. Corn Breeding Research Meeting, St Louis, MO, March 8-9, 2017.
- de Leon, N*, J. Gage, D. Jarquin, M.C. Romy, S.M. Kaeppler, E.S. Buckler, A.J. Lorenz, G2F Consortium. The Effect of Artificial Selection on Phenotypic Plasticity in Maize. Gordon Research Conference in Quantitative Genetics and Genomics, Galveston, TX, February 26-March 2, 2017.
- de Leon, N*, J. Gage, J. Renk, N. Haase, C. Falcon, E. Spalding, N. Miller, S. Kaeppler, G2F Consortium. The Role of High-Throughput Phenotyping Tools to Increase Breeding Efficiency in Maize. Phenome2017: Connecting the Bioeconomy, Tucson, AZ, February 10-14, 2017.
- de Leon, N*. Understanding Genotype-by-Environment Interaction and Its Role in the Prediction of Hybrid Performance in Maize. Plant Breeding Center - Department of Plant Sciences, The University of California, Davis, February 2, 2017.
- de Leon, N*. The Genomes to Fields Initiative: Lessons and Opportunities. National Plant Genome Initiative Workshop: Cracking the Code for Genotype X Environment Interactions in Crop Plants Through High Throughput Phenotyping. XXV Plant & Animal Genome Meeting, San Diego, CA, January 14-18, 2017.
- de Leon, N*. The Genomes to Fields Initiative: Progress and Perspective. 71st Corn and Sorghum Seed Research Conference, Hyatt Regency, Chicago, IL, December 8, 2016
- de Leon, N*, D. Jarquin, M.C. Romy, A.J. Lorenz, E. Buckler, S.M. Kaeppler, J. Gage. Predicting Hybrid Performance in Complex Scenarios: The G2F GXE Maize Project. Symposium--Crop Modeling and Plant Breeding: Intersecting Disciplines for a Resilient Agriculture. ASA-CSSA-SSSA International Meetings, Phoenix, AZ, November 6-19, 2016.
- de Leon, N* - Genetic Dissection of Compositional & Anatomical Characteristics Associated with Biofuel Production in Maize, Donald Danforth Plant Science, Center, St Louis, MO, September 28, 2016
- de Leon, N.* and S.M. Kaeppler - The Genomes to Fields Initiative: Overview, Progress and Perspective. Department of Plant Biology, Michigan State University, March 1, 2016
- de Leon, N.*, D. Jarquin, M.C. Romy, J. Gage, S.M. Kaeppler, E.S. Buckler, A.J. Lorenz - The Effect of Artificial Selection on Phenotypic Plasticity: The Genotype by Environment Interaction Project in Maize. XXIV Plant & Animal Genome Meeting, San Diego, CA, January 8-13, 2016
- de Leon, N* & G2F Consortium- The US Maize G X E Project: Overview, Progress and Perspective. XXIIIrd EUCARPIA Maize and Sorghum Conference: Genomics and Phenomics for Model-based Maize and Sorghum Breeding, Montpellier, France, June 10 – 12, 2015.

- de Leon, N* - Genomic Signatures of Long Term Selection Programs in Maize. – KWS Headquarters, Einbeck, Germany, April 24, 2015.
- de Leon, N* - Genomic Signatures of Long Term Selection Programs in Maize. Synbreed Colloquium: Understanding and predicting complex traits through genome discovery. Technical University of Munich, Freising, Germany, March 4 – 6, 2015.
- de Leon, N* - Connecting Genotypes and Phenotypes in a Complex Genome, the Example of Maize. Technical University of Munich Institute for Advanced Study Fellow's Seminar Series, Garching, Germany, February 2, 2015
- de Leon, N* & G2F Consortium - Corn & Sorghum Genetics for the Downstream Customer: The G2F Initiative, 69th Corn and Sorghum Seed Research Conference, Hyatt Regency, Chicago, IL, December 12, 2014
- de Leon, N*, S.M. Kaeppler, E. Spalding, N. Miller, N. Haase, J. Gage & G2F Consortium - Utilization of High-Throughput Phenotyping Tools for Plant Improvement – Big Data Symposium: From Data to Knowledge. Lincoln, NE, November 6 & 7, 2014
- de Leon, N*, S.M. Kaeppler, C.R. Buell, C.N. Hirsch, J.M. Foerster, G. Muttoni, J. Johnson, R. Sekhon, B. Vaillancourt - Maize GWAS and Trait Discovery. TCAP Seminar Series, October 22, 2014 - <http://www.triticeaecap.org/tcap-seminar-series/>
- de Leon, N* & D. Ertl - Genomes To Fields (G2F) Phenotyping Update – Presentation to the IA Corn Growers Board – Johnston, IA, August 12, 2014
- de Leon, N* - Genomic Signatures of Long Term Selection Programs in Maize – Seminar in Animal Genetics, Department of Animal and Dairy Sciences UW- Madison, April 1, 2014
- de Leon, N* - Genomic Signatures of Long Term Selection Programs in Maize - 50th Annual Illinois Corn Breeders' School - I-Hotel and Conference Center, Champaign, Illinois - March 3-4, 2014
- de Leon, N* - Genomic Signatures of Long Term Selection Programs in Maize. Cornell University Plant Breeding and Genetics Seminar Series, Ithaca, NY, November 18, 2013
- de Leon, N* - Utilization of Plant Biomass for the Production of Biofuels: The Example of Maize. Interface Colloquium – UW Department of Materials Science and Engineering, Madison, WI, November 13, 2013
- de Leon, N* - Connecting Genotypes and Phenotypes for the Improvement of Biomass Production in Maize. Pioneer Hi-Breds, Johnston, IA, August 21, 2013
- de Leon, N* - Connecting Genotypes and Phenotypes in a Complex Genome, the Example of Maize. Escola Superior de Agricultura Luiz de Queiroz, University of Sao Paulo, Piracicaba, SP, Brazil, July 3, 2013
- de Leon, N* - Connecting Genotypes and Phenotypes in a Complex Genome, the Example of Maize. University of Sao Paulo State, Botucatu, SP, Brazil, June 21, 2013
- de Leon, N* - Utility of complementary populations structures for genome wide association studies in maize. National Association of Plant Breeders. Tampa, FL. June 2 to 5, 2013
- de Leon, N.*, S.M. Kaeppler, M.D. Casler. Translational Genomics in Grasses. Genomic Science Annual Contractor-Grantee Meeting/USDA-DOE Plant Feedstock Genomics for Bioenergy Program Meeting, Bethesda, MD, February 24-27, 2013
- de Leon, N.*. Integrated Strategies for Genome-Wide Association Studies. Gordon Research Conference in Quantitative Genetics and Genomics, Galveston, TX, February 17-22, 2013
- Hansey, C*, B. Vaillancourt, R. Sekhon, N. de Leon, S. Kaeppler, C.R. Buell (2012). Maize genome diversity as revealed by RNA sequencing. Maize Genetics Conference. Portland, OR, March 15-18, 2013.

de Leon, N*. Breeding Corn for Silage: Resources and Technologies Developed in the UW Program. Wisconsin Crop Management Meeting, Alliant Energy Center, Madison, WI, – January 10-12, 2012.

Kaeppler, S.* , N. de Leon, R. Sekhon, C. Hansey, C. Buell, H. Lin and K. Childs. Expression Analysis Supporting Functional Genomics Research In Maize. Symposium--RNA Profiling Applications to Crop Improvement. ASA-CSSA-SSSA International Meetings, San Antonio, TX, October 16-19, 2011.

de Leon, N*. The University of Wisconsin Corn Silage Breeding Program. Pioneer Janesville station, Janesville, WI – September, 19th, 2011.

de Leon, N*, S. Kaeppler and G. Sanford. Biomass Production, harvest and storage, Great Lakes Bioenergy Research Center Annual Retreat - South Bend, IN - May 18th, 2011.

de Leon, N* and S. Kaeppler. Linking of cell wall digestibility and fermentation studies, Great Lakes Bioenergy Research Center Annual Retreat - South Bend, IN - May 18th, 2011.

de Leon, N*. Breeding maize for feed and fuel: Improvement of forage and stover quality. University of Minnesota Plant Breeding Symposium, Continuing Education and Conference Center University of Minnesota, St. Paul, March 14th, 2011.

de Leon, N* and C.N. Hansey. Breeding Improved Lignocellulosic Stover for Biofuels. Corn & Sorghum and Soybean Seed Research Conference, American Seed Trade Association Annual Meeting, Hyatt Regency Hotel - Chicago, IL - December 9th, 2010.

Kaeppler, S.M.* and N. de Leon. Designing Crop Varieties for Lignocellulosic Ethanol Production, Symposium--Biomass Energy Systems: Breeding, Genetics, & Genomics, ASA-CSSA-SSSA International Meetings, Long Beach, CA, November 1st, 2010.

de Leon, N*. Genetic Improvement of Corn for Lignocellulosic Biofuel Production. Monsanto Auditorium, Life Sciences Center, University of Missouri - Columbia, MO - September 22nd, 2010.

de Leon, N*, S.M. Kaeppler, H. Kaeppler and M. Casler. Issues Related to the Use of Residues from Annual Crops, Sustainable production of improved biomass Session, Great Lakes Bioenergy Research Center Scientific Advisory Board Annual Meeting, Madison Concourse Hotel - Madison, WI – July 13th, 2010.

de Leon, N*. The diversity of feedstocks within and across species – Biofeedstock center resources, baseline feedstock needs, feedstock analysis platforms, and feedstock quality issues related to ethanol production breakout session, Great Lakes Bioenergy Research Center Annual Retreat - South Bend, IN - May 19th, 2010.

de Leon, N*. The Corn Silage and Biofeedstock Breeding Program at UW – 2009 North Central Branch of the American Society of Agronomy Annual Meeting, Wisconsin Dells, WI, July 23rd, 2009.

de Leon, N*. Utilization of Lignocellulosic Biomass for Bioenergy Production: A Plant Scientist Perspective. UW Masters of Sciences in Biotechnology, February 6th, 2009.

de Leon, N*. The Plant Breeding and Plant Genetics Program at UW – Agricultural College of the National University of Uruguay – Montevideo, Uruguay – December 29th 2008.

de Leon, N*. The Corn Silage and Biofeedstock Breeding Program at UW – GEM Cooperators Meeting – American Seed Trade Association Annual Meeting – Chicago, IL - December 10th 2008.

de Leon, N*. Outlook and Challenges of Breeding Corn for Lignocellulosic Biofeedstock Production. Symposium –Symposium: Challenges to Transforming Forage Germplasm into Bioenergy Crops. C06 Forage and Grazinglands; A10 Bioenergy and Agroindustrial Systems (Provisional), C08 Plant Genetic Resources. ASA-CSSA-SSSA Annual Meeting. Houston, TX October 7th 2008.

de Leon, N*. Genetic Improvement of Feedstock for Biofuel Industry – Department of Agronomy – University of Padova, Padova, Italy. September 10th 2008.

de Leon, N*. The Corn Silage and Biofeedstock Breeding Program at UW – Iowa State University
Department of Agronomy, Ames, IA. September 18th 2008.

de Leon, N*. Corn Plant Breeding - Biomass and Cell Wall Composition - UW-Extension Team Grains
Professional Development. June 19th 2008.

de Leon, N*. Utilization of Lignocellulosic Biomass for Bioenergy Production: A Plant Scientist
Perspective. Animal Genomic Seminar, Department of Animal and Dairy Sciences UW, May 6th
2008.

de Leon, N*. Utilization of Corn Stover as a Source of Biofeedstock for the Biofuel Industry. UW Rural
Media Forum, March 13th 2008.

de Leon, N*. Utilization of Lignocellulosic Biomass for Bioenergy Production: A Plant Scientist
Perspective. UW Masters of Sciences in Biotechnology, February 8th 2008.

PATENTS AND RELATED DOCUMENTS:

Provisional Application for United States Letters Patent for Extending Juvenility in Grasses by Shawn
Kaepler, Natalia de Leon Gatti and Jillian Foerster. P120179US01

Provisional Application for United States Letters Patent for A Gene to Alter Flowering Time in Maize
by Shawn Kaepler, Natalia de Leon Gatti, German Muttoni and Jillian Foerster. P130256US01

RESEARCH SUPPORT:

Project title	PIs	Source of fund	Duration		Total budget
1. Evaluation of phenotypic variation and identification of important regions in the genome of corn associated with potential ethanol production	de Leon, N (PI)	USDA - Hatch (start-up)	10/01/06 to 09/30/08		\$63,000
2. Development of silage corn inbreds with improved forage yield and nutritional quality	de Leon, N (PI)	WARF†	01/01/07 to 12/30/07*	Research**	\$26,000
			01/01/08 to 12/30/08	Enabling Technologies***	\$30,000
			01/01/09 to 12/30/09	Research	\$23,000
			11/03/09 to 12/31/10	Enabling Technologies	\$29,000
			10/01/10 to 12/31/11	Equipment	\$33,000
			09/01/11 to 12/31/12	Research	\$25,000
			09/01/12 to 12/31/13	Enabling Technologies	\$20,000
			09/01/13 to 12/31/14	Research	\$28,000
			09/01/14 to 12/31/15	Enabling Technologies	\$20,000
			09/01/15 to 12/31/16	Research	\$20,000
09/01/16 to 12/31/17	Enabling Technologies	\$33,850			
3. Selection for weed resistance to herbicides in Wisconsin: The role of management, environmental, and genetic factors	Stoltenberg (PI); de Leon, N (Co-PI)	USDA - Hatch	10/01/07 to 09/30/11		\$27,000
4. Great Lakes Bioenergy Research Center – Gene discovery for ethanol traits in maize	de Leon, N; Kaeppler S.; Kaeppler H (Co-PIs)	DOE - GLBRC‡	11/15/07 to 09/30/08	Research**	~\$420,000
				Enabling Technologies***	~\$200,000
			12/01/08 to 11/30/09	Research	~\$320,000
				Enabling Technologies	~500,000
				Equipment	~380,000
			12/01/09 to 11/30/10	Research	~\$290,000
				Enabling Technologies	~400,000
			12/01/10 to 11/30/11	Research	~\$300,000
Enabling Technologies	~700,000				
	Research	~\$300,000			

			12/01/11 to 11/30/12	Enabling Technologies	~1.0 million
				Equipment	~250,000
			12/01/12 to 11/30/13	Research	~\$395,000
				Enabling Technologies	~650,000
			11/30/13 to 12/01/14	Research	~\$380,000
				Enabling Technologies	~\$400,000
			11/30/14 to 12/01/15	Research	~\$370,000
				Enabling Technologies	~\$200,000
			11/30/15 to 12/01/16	Research	~\$300,000
				Enabling Technologies	~\$500,000
			11/30/16 to 12/01/17	Research	~\$300,000
				Enabling Technologies	~\$200,000
5. Utilization of alternative corn morphologies for the production of lignocellulosic biomass	de Leon, N (PI)	USDA - Hatch	10/01/08 to 09/30/12		\$127,000
6. Acquiring access to corn inbred lines to use as testers in the UW corn silage and biofeedstock breeding program	Kaeppler S.(PI); de Leon, N (Co-PI)	WARF	01/01/09 to 12/30/09		\$11,500
7. Preparing Research and Development Professionals for Careers in Agricultural Genomics	Weigel, K. (P.I.), de Leon, N. (Co-PI), Craven, M. (Co-PI), Yandell, B. (Co-PI)	USDA/CSREES – National Needs Fellowship Program	01/02/2010 to 12/31/2015		\$125,000
8. Development of Maize Inbreds, Hybrids and Enhanced GEM Breeding Populations with Superior Silage and Biofeedstock Yield and Compositional Attributes de Leon (PI)	de Leon, N (PI)	United States Germplasm Enhancement of Maize Project – SCA program	10/01/07 to 09/30/08		\$16,000
			10/01/08 to 09/30/09		\$17,000
			10/01/09 to 09/30/10		\$17,000
			10/01/10 to 09/30/11		\$18,500
			10/01/11 to 09/30/12		\$16,600
			10/01/12 to 09/30/13		\$14,500

Proposal 04/15/09 10/01/09 to 09/30/10 United States Germplasm Enhancement of Maize Project – SCA program ~\$17,000 ~\$17,000 Yes				
9. Analysis of clinal variation in maize: implementation of an experimental framework for studying crop adaptation	Wisser, R, S. (PI), de Leon, N. and other six (Co-PIs)	USDA/AFRI Climate Change Challenge Area	12/31/10 to 12/31/15	~\$5 million (total)
10. Optimizing the conversion of breeding programs from phenotypic to genomic	de Leon, N. (PI); A. Lorenz (Co-PI)	NIFA/AFRI	01/15/12 to 04/30/16 (NCE 04/17)	\$500,000
11. Exploitation of Plant Genetic Resources for the Identification of Important Factors Affecting Maize Silage Productivity	de Leon, N (PI)	USDA - Hatch	10/01/12 to 09/30/16	\$166,000
12. Graduate School	de Leon, N (PI)	UW Graduate School	09/01/13 to 08/31/14	~\$44,000
13. G2F G X E project	Numerous Co-PIs	IA Corn Promotion	03/15/14	\$278,000
			03/15/15	\$260,000
			03/01/16	\$235,000
		SCA-ARS	06/01/17	\$438,000
			06/01/18	\$438,000
			02/08/20	\$438,000
14. Enabling cold tolerant maize using genomic and machine vision phenomic approaches	Spalding, E. (PI), Makarevich, I, Springer, N., Settles, A.M., Durham Brooks (Co-PI), de Leon, N (Collaborator)	NSF Plant Genome Project	01/31/15 to 01/30/20	~\$3,000,000 (total)
15. Genetic dissection of tolerance to suboptimal temperatures during early development of maize	de Leon, N.	Organization for Economic Cooperation and	03/01/15 to 06/30/15	€5,700

		Development-Co-operative Research Program		
16. Understanding the effect of long-term selection on the genetic control and modulation of genotype-by-environment interaction	de Leon, N. (PI), Kaeppler, S. (Co-PI)	NIFA/AFRI	01/01/16 to 12/31/19 (NCE to 10/31/20)	~\$500,000
17. Training the next generation of plant breeders: 5th International conference on quantitative genetics	de Leon, N. (PI), Rosa, G. (Co-PI)	NIFA/AFRI	10/01/15 to 09/30/16	\$25,000
18. Training the next generation of animal breeders: 5th International conference on quantitative genetics	Rosa, G. (PI), de Leon, N. (Co-PI)	NIFA/AFRI	10/01/15 to 09/30/16	\$10,000
19. Exploitation of Plant Genetic Resources for the Identification of Important Factors Affecting Maize Silage Productivity	de Leon, N (PI)	USDA - Hatch	10/01/17 to 09/30/20	\$126,000
20. Development of grain corn inbreds	Kaeppler, S (PI), de Leon, N (Co-PI)	WARF†	09/01/15 to 12/31/16	\$14,292
			09/01/16 to 12/31/17	\$23,721
			09/01/18 to 12/31/19	\$12,000
21. WI Contribution to Genomes to Fields	Kaeppler, S (PI), de Leon, N (Co-PI)	WI Corn Promotion Board	05/16 to 04/19	\$18,000
22. DEEPER: An Integrated Phenotyping Platform for Deeper Rooting	Lynch (PI), Brown, Hadka, Heinemann, Kaeppler, de Leon, Bucksch, Bennett, Mooney, Pridmore n (Co-PI)	DOE	09/01/17 to 08/31/21	\$6,900,000 (\$1,600,000 to UW)
23. A Plant Phenotyping Core at the Wisconsin Crop Innovation Center to Enable Discovery and Technology Transfer	Kaeppler (PI), de Leon, Kaeppler, Miller, Peterson,	UW2020	07/01/17 to 06/30/19	\$300,000

	Spalding, Amasino, Ane, Bent, Sussman			
24. Elucidating Maize Gene Regulatory Networks to Accelerate Translational Genomics	Grotewold (PI), Doseff, Gray, Springer, de Leon (Co-PI)	NSF-PGRP	11/01/17 to 10/31/21	\$4,884,153 (\$670,000 to UW)
25. Foundation for Food and Agriculture Research	Kaeppler, SM and de Leon (Co- PIs)	FFAR	07/15/19 to 07/14/22	\$1,700,000 (\$1,200,000 to UW)
26. National Corn Growers Association	de Leon and Kaeppler, SM (Co- PIs)	NCGA	09/01/19 to 08/31/20	\$94,000
27. Phenotypic assessment and genetic dissection of maize endosperm composition as it relates to silage	de Leon, N (PI)	USDA - Hatch	10/01/20 to 09/30/24	\$146,300

*Coors (PI), de Leon (Co-PI); ** Research = funding directly to the program; ***Enabling Technologies = support provided by GLBRC in the form of sequencing at JGI and biochemical analysis (this is not directly accounted for in our research budget); † WARF = Wisconsin Alumni Research Foundation; ‡ GLBRC = Great Lakes Bioenergy Research Center; ¶ Project pending approval

GRADUATE STUDENT FELLOWSHIP SUPPORT:

Project title	Student	Duration	Source of fund	Total budget
Monsanto Graduate Student Fellowship	Timothy Beissinger (Ph.D.)	06/01/10 to 05/31/13	Monsanto	\$100,000
Pioneer Hi-Bred Honorary Student Fellowship	German Muttoni (Ph.D.)	07/01/09 to 06/30/13	Pioneer Hi-Bred	\$100,000
Forage Genetics Student Fellowship	Calli Anibas (Ph.D.)	06/01/13 to 05/31/16	Forage Genetics	\$100,000
Agreliant Student Fellowship (shared with Shawn Kaeppler)	Brett Burdo (Ph.D.)	06/01/14 to 05/31/17	AgReliant Genetics	\$100,000
Mies Family Student Fellowship (shared with Shawn Kaeppler)	Mike White (Ph.D.)	06/01/15 to 05/31/18	Mies Family	\$100,000

TEACHING RESPONSIBILITIES:

Agronomy/Horticulture 811 - Biometrical Procedures in Plant Breeding (teach and coordinate 100% of the course); 3cr. Advanced graduate level course.

Agronomy/Horticulture 812 - Advanced Plant Breeding and Selection Theory (teach and coordinate 75% of the course); 2cr. Advanced graduate level course.

Agronomy/Horticulture 501 – Introductory Plant Breeding (teach and coordinate 50% of the course); 3cr. Introductory graduate /advanced undergraduate level course.

ADVISING:

- Ph.D. (completed) - 5 - Candy (Hansey) Hirsch, German Muttoni, Nick Haase, Joe Gage – Plant Breeding and Plant Genetics; Timothy Beissinger - Statistical and Quantitative Genetics
- M.S. (completed) - 3 - Tim Gustafson, Jonathan Renk, Calli Anibas- Plant Breeding and Plant Genetics
- Ph.D. co-advised (current) - 1 - Kathryn Michel - Plant Breeding and Plant Genetics
- Ph.D. co-advised (completed) - 5 - Melinda Yerka, Aaron Lorenz, Ntjapa Lebaka, Brett Burdo, Mike White - Plant Breeding and Plant Genetics
- Ph.D. (current) - 4 – Jonas Rodriguez, Jose Ignacio Varela, Bridget McFarland, Alden Perkins - Plant Breeding and Plant Genetics
- Post doctoral fellows (current) - 2 - Vai Lor, Dayane Lima
- Post doctoral fellows (past) - 5 - Rajan Sekhon, Renato Rodrigues Silva, Marlies Heckwolf, Mona Mazaheri, Celeste Falcon
- Visiting scientist (past) – 10 – Luis Alberto Galicia Flores, Fred Rattunde Weltzien, Eva Rattunde Weltzien, Marcela Mendes, Sigifredo Balderrama, Camila Ribeiro, Manfred Mayer, Evandrei Rossi, Julia Silva Morosini, Fernando Garcia Espolador

- Graduate student committees total to date – 80 students (M.S. and Ph.D.)
- Undergraduate students in the Biology Major total advised to date – 40 students
- Directed research project and internship advisor total to date (* = Biology 152 advisee; ** = Agronomy 299 advisee, *** = Agronomy 399 advisee, **** = Agronomy 699 advisee, § = Integrated Biological Sciences - Summer Research Program interns, ¶ = Plant Breeding interns) – 14 undergraduate students (Kathryn Kaye*, Scott Stelpflug*, Andrew Cunningham*, Ashlee Derr**, Scott Stelpflug***, Sara Nitschke[§], Valerie Morley[§], Victor M. Palacios[§], Timothy Beissinger[¶], Benjamin Theodore Schmidt[¶], Emily Rothfusz[¶], Nathan Follen[¶], Rachel Perry**, Reynaldo Morales***, Jason Edler****, Paulo Pinheiro***, Arianna Radloff****)

	Student Name	Targeted Degree	Advisor	Date		
				Certification meeting	Prelim Exam	Thesis Defense
1.	<i>Michael Chandler</i>	Ph.D. PBPG†	William Tracy	07/05/06	06/08/07	04/03/08
2.	<i>Aaron Lorenz</i>	Ph.D. PBPG	James Coors/ Natalia de Leon	07/05/06	05/24/07	11/25/08

3.	<i>Zhe Yan</i>	M.S. Agronomy	Joseph Lauer			03/06/07
4.	<i>Carrin Carlson</i>	M.S. PBPG	Dennis Stimart			12/14/07
5.	<i>Kevin Thalacker</i>	M.S. PBPG	William Tracy			12/11/07
6.	<i>Isabelle Delannay</i>	Ph.D. PBPG	Jack Staub/ Phil Simon		10/16/07	07/30/09
7.	<i>Chad Kramer</i>	Ph.D. PBPG	Tom Osborn			08/03/07
8.	<i>Eric Riedeman</i>	M.S. PBPG	William Tracy			06/21/07
9.	<i>Eric Riedeman</i>	Ph.D. PBPG	William Tracy	12/01/08	04/17/09	04/21/10
10.	<i>Gabriela Ronquillo</i>	M.S. PBPG	James Nienhuis			08/17/09
11.	<i>Hugo Cuevas</i>	Ph.D. PBPG	Jack Staub			08/22/08
12.	<i>Robert Kane</i>	M.S. PBPG	Phil Simon			06/12/08
13.	<i>Timothy Gustafson</i>	M.S. PBPG	Natalia de Leon			04/08/09
14.	<i>Candy Hansey</i>	Ph.D. PBPG	Natalia de Leon	02/07/08	03/27/09	06/03/10
15.	<i>Jared Zyskowski</i>	M.S. PBPG	William Tracy			03/31/09
16.	<i>Leah Viesselmann</i>	M.S. PBPG	William Tracy			04/14/09
17.	<i>Jason Cook</i>	Ph.D. PBPG	Heidi Kaeppler			07/15/09
18.	<i>Timothy Beissinger</i>	Ph.D. Statistical and Quantitative Genetics	Natalia de Leon	09/29/09	08/16/12	05/12/14
19.	<i>Steve Wilkens</i>	M.S. Agronomy	Joseph Lauer			01/09/12
20.	<i>Melinda (Markham) Yerka</i>	Ph.D. PBPG	Natalia de Leon/ Dave Stoltenberg	11/17/09	06/16/10	11/30/11
21.	<i>Loren Trimble</i>	Ph.D. PBPG	William Tracy	06/07/10	03/31/11	04/23/12
22.	<i>Leah Viesselmann</i>	Ph.D. PBPG	William Tracy	06/17/10	12/02/10	09/30/11
23.	<i>German Muttoni</i>	Ph.D. PBPG	Natalia de Leon	08/30/10	12/11/12	05/29/13
24.	<i>Stella Salvo</i>	Ph.D. PBPG	Heidi Kaeppler	09/27/10	05/15/12	08/27/14
25.	<i>Karl Von Mogel</i>	Ph.D. PBPG	Shawn Kaeppler	10/05/10	03/24/11	05/23/14
26.	<i>Nicholas Howard</i>	M.S. PBPG	Mike Havey			06/08/11
27.	<i>James Johnson</i>	Ph.D. PBPG	Shawn Kaeppler	11/30/10	12/12/11	08/12/13
28.	<i>Jillian Foerster</i>	Ph.D. PBPG	Shawn Kaeppler	01/13/11	12/13/11	07/08/13
29.	<i>David Price</i>	Ph.D. PBPG	Mike Casler	07/20/11	04/03/12	05/15/13
30.	<i>Pattama Hannok</i>	Ph.D. PBPG	Kevin Pixley	09/27/11	05/02/14	07/14/15
31.	<i>Janejira Duangjit</i>	Ph.D. PBPG	Mike Havey	04/13/12	09/20/12	07/09/13

32.	<i>Adrienne Shelton</i>	M.S. PBPG	William Tracy			09/26/12
33.	<i>Kyle Rak</i>	Ph.D. PBPG	Jiwan Palta	09/20/12	08/23/13	05/07/15
34.	<i>Steve Damon</i>	Ph.D. PBPG	Mike Havey	11/01/12	03/21/13	04/23/14
35.	<i>Chin Jian Yang</i>	Ph.D. Genetics	John Doebley	02/14/13	08/14/15	04/30/18
36.	<i>Reid Rice</i>	Ph.D. PBPG	William Tracy	03/08/13	04/03/13	
37.	<i>Axel Ramirez-Madera</i>	Ph.D. PBPG	Mike Havey	05/14/13	11/20/14	02/01/16
38.	<i>Nick Haase</i>	Ph.D. PBPG	Natalia de Leon	12/06/13	06/18/14	09/30/15
39.	<i>Brittany Glaza</i>	M.S. PBPG	William Tracy			01/22/14
40.	<i>Joe Gage</i>	Ph.D. PBPG	Natalia de Leon	12/16/14	05/26/17	04/10/18
41.	<i>Maria Sardi</i>	Ph.D. Microbiology	Audrey Gasch		07/07/14	06/07/17
42.	<i>Scott Stelpflug</i>	Ph.D. PBPG	Shawn Kaeppler	09/20/13	06/02/14	12/02/15
43.	<i>Yaodong Hu</i>	Ph.D. Animal Sciences	Dan Gianola		12/02/13	05/12/15
44.	<i>Calli Anibas</i>	M.S. PBPG	Natalia de Leon	12/18/14		01/10/20
45.	<i>Guillaume Ramstein</i>	Ph.D. PBPG	Mike Casler	03/24/14	03/16/15	08/11/17
46.	<i>Raghuveer Sripathi</i>	Ph.D. PBPG	Mike Casler	04/16/14	04/13/15	04/18/16
47.	<i>Jared Zystro</i>	Ph.D. PBPG	William Tracy	04/21/15	04/12/16	06/21/19
48.	<i>Tim Gustafson</i>	Ph.D. PBPG	William Tracy	05/12/15	03/31/16	04/26/17
49.	<i>Eduardo Covarrubias</i>	Ph.D. PBPG	Juan Zalapa	07/08/15	05/27/16	12/12/16
50.	<i>Camila Ribeiro</i>	Ph.D. Universidade de Lavras, Brazil	João Cândido de Souza		09/23/15	
51.	<i>Emily Rude</i>	M.S. PBPG	Mike Casler			11/30/15
52.	<i>Alex Marand</i>	Ph.D. PBPG	Jiming Jiang	11/23/15	04/07/17	04/16/18
53.	<i>Yuhui Wang</i>	Ph.D. PBPG	Yiqun Weng		01/05/16	04/13/17
54.	<i>Tessa Peters</i>	Ph.D. PBPG	William Tracy		02/10/16	02/21/18
55.	<i>Brett Burdo</i>	Ph.D. PBPG	Shawn Kaeppler	05/02/16	02/17/17	06/29/18
56.	<i>Stacie Shuler</i>	Ph.D. PBPG	William Tracy	02/15/17	06/02/17	12/11/17
57.	<i>Ginny Moore</i>	Ph.D. PBPG	William Tracy	05/04/16	11/01/17	08/13/18
58.	<i>Jonathan Renk</i>	M.S. PBPG	Natalia de Leon		06/06/16	05/04/17

59.	<i>Brandon Schlautman</i>	Ph.D. PBPG	Juan Zalapa			08/12/16
60.	<i>Luis Diaz Garcia</i>	Ph.D. PBPG	Juan Zalapa	09/12/16	11/29/18	07/12/18
61.	<i>Abdalla Zanoony</i>	Ph.D. PBPG	Shawn Kaeppler		09/15/16	01/25/17
62.	<i>Cari Schmitz Carley</i>	Ph.D. PBPG	Jeff Endelman	06/06/16 & 11/01/16	12/12/16	02/27/18
63.	<i>Adam Bolton</i>	Ph.D. PBPG	Phil Simon	01/31/17	01/26/18	05/09/19
64.	<i>Hari Poudel</i>	Ph.D. PBPG	Mike Casler	02/24/17	10/11/17	12/13/18
65.	<i>Ali York</i>	Ph.D. Genetics	John Doebley	06/08/17		07/23/18
66.	<i>Bridget McFarland</i>	Ph.D. PBPG	Natalia de Leon	05/10/18	04/20/20	
67.	<i>Jose Ignacio Varela</i>	Ph.D. PBPG	Natalia de Leon	02/28/19	05/05/20	
68.	<i>Maria Salas Caraza</i>	Ph.D. PBPG	Jeff Endelman	11/02/17	02/26/19	04/15/20
69.	<i>Maddeline Olberg</i>	Ph.D. PBPG	Mike Havey	01/03/18	10/11/18	
70.	<i>Jered Alan Stratton</i>	Ph.D. Genetics	Bret Payseur	12/07/17	07/20/18	
71.	<i>Kathryn Michel</i>	Ph.D. PBPG	Shawn Kaeppler	12/12/18	04/29/19	
72.	<i>Mike White</i>	Ph.D. PBPG	Shawn Kaeppler	10/24/17	10/25/18	01/06/20
73.	<i>Pablo Gonzalez</i>	Ph.D. PBPG	Lucia Gutierrez	06/25/18	02/21/20	05/01/20
74.	<i>Keo Corak</i>	Ph.D. PBPG	Julie Dawson	10/18/18	04/02/19	
75.	<i>Matthew Lollar</i>	Ph.D. Genetics	John Pool	08/08/18 & 09/09/19		
76.	<i>Wade Webster</i>	Ph.D. Plant Pathology	Damon Smith			
77.	<i>Raegan Hoefler</i>	Ph.D. PBPG	Lucia Gutierrez	04/06/20		
78.	<i>Lily Hislop</i>	Ph.D. PBPG	William Tracy	05/03/19		
79.	<i>Neal Tilhou</i>	Ph.D. PBPG	Mike Casler	10/24/19		
80.	<i>Jonas Rodriguez</i>	Ph.D. PBPG	Natalia de Leon	02/28/20	04/23/20	

Year	Term	Course	Title	Credits	Portion	Students	Grades
2006	Fall	Agron/Hort 850	<i>Advanced Plant Breeding/Selection Theory</i>	3	40%+	12	4A, 6AB, & 2B
2007	Spring	Agron 771	<i>Experimental Design</i>	1	50%+	24	24 passed
	Spring	Agron 772	<i>Statistical Analysis</i>	1	50%+	23	23 passed

	Fall	Agron/Hort 811	<i>Biometrical Procedures in Plant Breeding</i>	3	66%†	10	5A, 3AB, 1B & 1C
	Fall	Agronomy 875	<i>Planning of Experiments</i>	1	20%†	13	9A & 4AB
2008	Spring	Agron/Hort 850	<i>Advanced Plant Breeding/Selection Theory</i>	3	66%†	5	5A
2009	Spring	Agron/Hort 957	<i>Plant Breeding Seminar</i>	1	50%†	10	5A, 3AB, 2 B
	Fall	Agron/Hort 811	<i>Biometrical Procedures in Plant Breeding</i>	3	66%†	13	5A, 2AB, 4B, 2BC
2010	Spring	Agron/Hort 850	<i>Advanced Plant Breeding/Selection Theory</i>	3	66%†	6	4A, 1AB, 1C
2011	Fall	Agron/Hort 811	<i>Biometrical Procedures in Plant Breeding</i>	3	66%†	21	9A, 7AB, 1B, 2BC
2012	Spring	Agron/Hort 875-I and 875-II	<i>Selection Theory module and Advanced Plant Breeding Module</i>	2 & 1	66%†	17 & 19	8A, 4AB, 1B, 4NR & 14A, 2AB, 1B, 2NR
	Fall		<i>Linking Agriculture and Nutrition II</i>	1	20%	16	16A
2013	Fall	Agron/Hort 811	<i>Biometrical Procedures in Plant Breeding</i>	3	100%	18	10A, 5AB, 2B, 1C
2014	Spring	Agron/Hort 875-I	<i>Selection Theory for Quantitative Traits in Plants</i>	2	66%	12	6A, 5AB, 1B
		Agron/Hort 875-II	<i>Advanced Plant Breeding</i>	1	coordinated	14	10A, 2AB, 1B, 1BC
2015	Fall	Agron/Hort 811	<i>Biometrical Procedures in Plant Breeding</i>	3	100%	24	17A, 2AB, 3B, 2I
2016	Spring	Agron/Hort 875-I*	<i>Selection Theory for Quantitative Traits in Plants</i>	2	66%	19	10A, 6AB, 2B, 1BC
2017	Fall	Agron/Hort 811	<i>Biometrical Procedures in Plant Breeding</i>	3	100%	19	10A, 7AB, 2B
		Agron/Hort 957	<i>Plant Breeding Seminar</i>	1	50%	20	12A, 7AB, 1B
2018	Spring	Agron/Hort 812	<i>Selection Theory for Quantitative Traits in Plants</i>	2	66%	10	5A, 4AB, 1B
2019	Spring	Agron/Hort 957	<i>Plant Breeding Seminar</i>	1	50%	9	9A

2019	Fall	Agron/Hort 811	<i>Biometrical Procedures in Plant Breeding</i>	3	100%	18	14A, 3AB, 1B
2020	Spring	Agron/Hort 812	<i>Selection Theory for Quantitative Traits in Plants</i>	2	66%	12	4A, 4AB, 1B, 3S
2020	Fall	Agron/Hort 501	<i>Introductory Plant Breeding</i>	3	50%	28	In progress

*A permanent number has been assigned to Agronomy/Horticulture 875-I and will be called Agronomy/Horticulture 875 for 2 credits starting Spring 2018

GERMPLASM RELEASES:

a) Maize populations:

1. Wisconsin Quality Synthetic Cycle 4 (WQS C4) - WQS is a broad-based synthetic with a maturity of approximately 100 to 110RM. Inbreds derived from WQS combine well with inbreds derived from the Stiff Stalk Synthetic.
2. GEM Quality Synthetic Cycle 1 (GQS C1) – GQS was developed from the cross CUBA164:S1517 and CUBA117:S1520 from the Germplasm Enhancement of Maize program at Iowa State University. Inbreds derived from GQS combine well with inbreds derived from the Non-Stiff Stalk Synthetic.

b) Inbred lines (relative maturity of these lines is approximately 105 RM):

1. W606S - Inbred line developed from germplasm provided by the GEM program and released in late 2009 from population SCRO1:N1310-398. Line is a Non-Stiff Stalk type.
2. W607S - Inbred line developed from germplasm provided by the GEM program and released in late 2009 from population BR52051:N04-76. Line is a Non-Stiff Stalk type.
3. W608S - Inbred line developed from germplasm provided by the GEM program and released in late 2009 from population CHO5015:N15-8. Line is a Non-Stiff Stalk type.
4. W609S - Inbred line developed from germplasm provided by the GEM program and released in late 2009 from population FS8B(T):N11a-322. Line is a Non-Stiff Stalk type.
5. W610S - Inbred line developed from germplasm provided by the GEM program and released in late 2009 from population CUBA164:S2012-235. Line is a Stiff Stalk type.
6. W611S - Inbred line developed from WQS C2 and released in 2009.
7. W612S - Inbred line developed from WQS C2 and released in 2009.
8. W613S - Inbred line developed from WQS C3 and released in 2012.
9. W614S - Inbred line developed from WQS C3 and released in 2012.
10. W615S - Inbred line developed from GQS C0 and released in 2012.
11. W616S - Inbred line developed from germplasm provided by the GEM program and released in 2012 from population AR16026:S1719-052.
12. W617S - Inbred line developed from WQS C2 and released in 2017.
13. W618S - Inbred line developed from WQS C2 and released in 2017.
14. W619S - Inbred line developed from germplasm provided by the GEM program and released in 2017 from population SCROGP3:N2017-003-001.
15. W620S - Inbred line developed from germplasm provided by the GEM program and released in 2017 from population SCROGP3:N2017-003-001.
16. W621S - Inbred line developed from germplasm provided by the GEM program and released in 2017 from population SCROGP3:N2017-003-001.

17. W622S - Inbred line developed from the recombination of previously released lines from the UW silage breeding program (W604S and W605S) and released in 2017.
18. W623S - Inbred line developed from the recombination of previously released lines from the UW silage breeding program (W604S and W605S) and released in 2017.
19. W624S - Inbred line developed from the recombination of previously released lines from the UW silage breeding program (W604S and W605S) and released in 2017.
20. W625S - Inbred line developed from the recombination of previously released lines from the UW silage breeding program (W604S and W605S) and released in 2017.

SERVICE:

a) University service

- Member of the SciMed student evaluation committee (2020)
- Member of the Dairy Innovation Hub postdoc and equipment proposal selection committee (2020)
- Member of the Mathematics Horizons Institute (or MathI) Mathematics Advisory Council (2019 to present)
- UW Laboratory of Genetics Crow Professorship Selection Committee (2019)
- Search committee member for UW Vice Chancellor for Biological Sciences position (2018)
- Amaya Atucha Assistant Professor Mentor Committee (2018 to 2020)
- Post Tenure Review Committee – Associate Professor Heidi Kaeppler (2018 to present)
- Department of Agronomy Diversity Representative (2017-2019)
- VGRCE UW2020 Review Council (2017 to 2019)
- VGRCE Microbiome Initiative proposal review committee member (2017)
- Post Tenure Review Committee – Professor Shawn Conley (2017)
- Member of the UW CALS Review Committee for the Undergraduate Global Health Certificate (2016 - 2017)
- Panelist for the Women Faculty in Science and Engineering Luncheon panel organized by the University of Wisconsin-Madison Postdoctoral Association (2016)
- Panelist for a professional development discussion for mid-career faculty - The Up-sides and Down-sides of Saying No (2016)
- Search committee member Agronomy Weed Science faculty position (2016 – 2017)
- UW CALS West Madison Research Station Visioning Committee (2016 - 2017)
- UW Research Cores Director Search Committee (2016)
- Lucia Gutierrez Assistant Professor Mentor Committee (Chair - 2016 to 2019)
- Committee for Research Scientist Position Search ARS-USDA Cereal Crop Research Unit (2016)
- Department of Agronomy Associate Chair for Plant Breeding (2015 to present)
- Department of Agronomy Space Committee chair (2015 to 2018)
- Chancellor Scholar friend-mentor (2015 to 2018)
- Chair of search committee Agronomy Small Grain Breeding and Genetics position (2014)
- Graduate School Research Competition Committee Member (2014 to 2016)
- College of Agricultural & Life Sciences' Research Advisory Committee (2013)
- College of Agricultural & Life Sciences' Equity and Diversity Committee (2013 to present – current co-chair)
- UW Women at the University Committee (2010 to 2016 – co-chair in 2013-14 and 2015-16)
- Campus Wide Ad Hoc Bullying Committee (2013 - 2014)
- Department of Agronomy Curriculum Committee (2007 to present)
- Department of Agronomy Hatch Capital Exercise Committee (2007 to 2015)

- Department of Agronomy Farms: West Madison and Seeds Building Committee (2009 to present)
- Department of Agronomy Seeds Building Committee – (2011 to present, interim chair in 2012)
- Search committee CALS population/quantitative genetics position (2011)
- Plant Breeding and Plant Genetics Fellowship Committee (2008 to 2013)
- Plant Breeding and Plant Genetics Curriculum Committee (2008 to present – chair 2016)
- College of Agricultural & Life Sciences Biometry Committee (2008, 2009)
- Department of Agronomy Seed Certification and Foundation Seeds Committee (2008)
- Department of Agronomy Graduate Studies Committee (2008, 2009)
- Graduate Student Screen Committee for Pioneer Fellowship (2008)
- Committee for Cucurbita Research Faculty Position at UW Horticulture Department (2008)

b) Editorial duties

- Technical Editor Crop Science (2017 to present)
- Associate Editor The Plant Genome (2017 to present)
- Associate Editor Theoretical and Applied Genetics (2012 to 2017)
- Associate Editor Crop Science (2012 to 2016)
- Associate Editor Scientia Agricola (2012 to 2016)

c) Grant and other external reviews

- Wheat and Rice Center for Heat Resilience (<http://wrchr.org>) - External Advisory Board – 2019
- USDA/NIFA Plant Breeding review panel manager – 2018, 2019 and 2020
- USDA/NIFA Plant Breeding review panel participant – 2016 and 2017
- Ad-hoc reviewer National Science Foundation Plant Genome Research – 2012 and 2015
- Ad-hoc proposal reviewer for the International Center for Wheat and Corn Breeding Research (CIMMYT) – MASAGRO project- 2011
- National Science Foundation Plant Genome Research Program review panel participant - 2011
- Ad-hoc reviewer of NSF 08-607 – Organizational unit: Plant Genome Research Project - 2009
- Ad-hoc reviewer Univ. of Minnesota's Discovery Grant program on biofuels and related areas - 2007
- Reviewer for research project plan for USDA NP 301 – Plant Genetic Resources, Genomics and Genetic Improvement Research Group, Corn Insect and Crop Genetics Research Unit - 2007

d) Committees

- Member of the Maize Genetics Committee on Outreach, Diversity, Inclusion and Education (2020 to present)
- Member of the Maize Genetics Executive Committee/Board of Directors (2016 to present – chair in 2019)
- Member of the Maize Genetics Award Committee (2017 to present)
- Member/liaison of the Maize Genetics Steering Committee (2016 to 2019)
- Member and co-lead of Genomes to Fields Executive Committee (2014 to present)
- Member of USDA Germplasm Enhancement of Maize (GEM) Steering Committee (2007 to 2013)
- Member of the International Board of the Acta Scientiarum- Agronomy Journal (2008 to 2013)
- Representative of the Multistate Research Program NCR-167 (2007 to 2019)
- Member of the Corn Breeding Research Group (2014 to present, treasurer 2017 to present)