

2016 Faculty Scholars Competition CURRICULUM VITAE

NAME	POSITION TITLE
Jeffrey Ross-Ibarra	Associate Professor

EDUCATION & TRAINING

START MONTH /YEAR	END MONTH/ YEAR	DEGREE	INSTITUTION & LOCATION	TRAINING MENTOR	SCIENTIFIC DISCIPLINE
9/2006	12/2008		Dept. of Ecology and Evolutionary Biology, University of California, Irvine	Brandon S. Gaut	Evolutionary Genetics
8/2001	8/2006	PhD	Dept. of Genetics, University of Georgia	James L. Hamrick	Genetics (Population Genetics)
9/1998	12/2000	MS	Dept. of Botany and Plant Sciences, University of California, Riverside	Norman C. Ellstrand and Arturo Gómez-Pompa	Botany (Ethnobotany)
9/1995	6/1998	BA	Botany		

PROFESSIONAL POSITIONS

START MONTH /YEAR	END MONTH/ YEAR	POSITION TITLE	DEPARTMENT	INSTITUTION AND LOCATION
7/2012	present	Associate Professor	Plant Sciences	University of California, Davis, CA
1/2009	6/2012	Assistant Professor	Plant Sciences	University of California, Davis, CA

Explanatory Notes

1/2001-6/2001 Profesor de Asignatura, Universidad Autónoma de México, Mexico City

Significant Professional Activities

Associate Editor, Genes, Genomes, and Genetics 2014-present

Academic Editor, PeerJ 2013-present

Editorial Board, <i>Axios Review</i>	2013-present
DuPont Young Professor Award (\$75,000 to ~10 faculty worldwide in Plant Biology or Chemistry)	2012
Associate Editor, <i>American Journal of Botany</i>	2009-2011
Presidential Early Career Award for Scientists and Engineers	2009

Peer-Reviewed Publications

lab members are listed in bold and symbols denote role: *equal contribution, ‡undergraduate, §corresponding, †cover article. citations from Google Scholar

53. **Takuno S**, Ralph P, **Mezmouk S**, Swarts K, Elshire RJ, Glaubitz JC, Buckler ES, **Hufford MB**, and **Ross-Ibarra J**§ (2015) Independent molecular basis of convergent highland adaptation in maize. Genetics In Press
Citations: 2
52. **Vann LE**, **Kono TJ**, **Pyhäjärvi T**, **Hufford MB**§, **Ross-Ibarra J**§ (2015) Natural variation in teosinte at the domestication locus *teosinte branched1* (*tb1*). PeerJ 3:e900
51. Hake S, **Ross-Ibarra J** (2015) Genetic, evolutionary and plant breeding insights from the domestication of maize. eLife 2015;4:e05861
50. Fonseca RR, Smith B, Wales N, Cappellini E, Skoglund P, Fumagalli M, Samaniego JA, Caroe C, Avila-Arcos MC, Hufnagel D, Korneliussen TS, Vieira FG, Jakobsson M, Arriaza B, Willerslev E, Nielsen R, Hufford MB, Albrechtsen A, **Ross-Ibarra J**, Gilbert MT (2015) The origin and evolution of maize in the American Southwest. Nature Plants 1(1)
Citations: 4
49. Dyer GA, López-Feldman A, Yúnez-Naude A, Taylor JE, **Ross-Ibarra J** (2015) Reply to Brush *et al.*: Wake-up call for crop conservation science. PNAS 112 (1), E2-E2 (letter).
48. Makarevitch I, Waters M, West P, **Stitzer M**, **Ross-Ibarra, J**, Springer NM (2015) Mobile elements contribute to activation of genes in response to abiotic stress. PLoS Genetics 11 (1): e1004915.
Citations: 6
47. Tiffin P, **Ross-Ibarra J** (2014) Advances and limits of using population genetics to understand local adaptation. Trends in Ecology and Evolution 29:673-680
Citations: 8
46. **Bilinski P**, **Distor KD**, **Gutierrez-Lopez J**, **Mendoza Mendoza G**, Shi J, Dawe K, **Ross-Ibarra J**§ (2014) Diversity and evolution of centromere repeats in the maize genome. Chromosoma 0009-5915
Citations: 1
45. **Mezmouk S**, **Ross-Ibarra J**§ (2014) The pattern and distribution of deleterious mutations in maize. (2014) G3 4:163-171
Citations: 2

44. Waters AJ, **Bilinski P**, Eichten SR, Vaughn MW, **Ross-Ibarra J**, Gehring M, Springer NM (2013) Comprehensive analysis of imprinted genes in maize reveals allelic variation for imprinting and limited conservation with other species. PNAS 110:19639-19644
Citations: 13

43. **Pyhäjärvi T**, **Hufford MB**, **Mezmouk S**, **Ross-Ibarra J**[§] (2013) Complex patterns of local adaptation in teosinte. Genome Biology and Evolution 5: 1594-1609.[†]
Citations: 21

42. Wills DM, Whipple C, **Takuno S**, Kursel LE, Shannon LM, **Ross-Ibarra J**, Doebley JF (2013) From many, one: genetic control of prolificacy during maize domestication. PLoS Genetics 9(6): e1003604.
Citations: 11

41. McCouch S, Baute GJ, Bradeen J, Bramel P, Bretting PK, Buckler E, Burke JM, Charest D, Cloutier S, Cole G, Dempewolf H, Dingkuhn M, Feuillet C, Gepts, P, Grattapaglia D, Guarino L, Jackson S, Knapp S, Langridge P, Lawton-Rauh A, Lijua Q, Lusty C, Michael T, Myles S, Naito K, Nelson RL, Pontarollo R, Richards CM, Rieseberg L, **Ross-Ibarra J**, Rounsley S, Sackville Hamilton R, Schurr U, Stein N, Tomooka N, van der Knaap E, van Tassel D, Toll J, Valls J, Varshney RK, Ward J, Waugh R, Wenzl P, Zamir D. (2013) Agriculture: Feeding the future. Nature 499:23-24
Citations: 68

40. **Hufford MB**, Lubinsky P, **Pyhäjärvi T**, **Devenganzo MT**[‡], Ellstrand NC, **Ross-Ibarra J**[§] (2013) The genomic signature of crop-wild introgression in maize. PLoS Genetics 9(5): e1003477.
Citations: 38

39. **Provance MC**[§], Garcia Ruiz I, **Thommes C**[‡], **Ross-Ibarra J** (2013) Population genetics and ethnobotany of cultivated *Diospyros riojae* Gómez Pompa (Ebenaceae), an endangered fruit crop from Mexico. Genetic Resources and Crop Evolution 60: 2171-2182.
Citations: 1

38. Melters DP*, Bradnam KR*, Young HA, Telis N, May MR, Ruby JG, Sebra R, Peluso P, Eid J, Rank D, Fernando Garcia J, DeRisi J, Smith T, Tobias C, **Ross-Ibarra J**[§], Korf IF[§], Chan SW-L. (2013) Patterns of centromere tandem repeat evolution in 282 animal and plant genomes. Genome Biology 14:R10
Citations: 36

37. Kanizay LB, **Pyhäjärvi T**, Lowry E, **Hufford MB**, Peterson DG, **Ross-Ibarra J**, Dawe RK (2013) Diversity and abundance of the Abnormal chromosome 10 meiotic drive complex in *Zea mays*. Heredity 110: 570-577.
Citations: 4

36. **Hufford MB**, **Bilinski P**, **Pyhäjärvi T**, **Ross-Ibarra J**[§] (2012) Teosinte as a model system for population and ecological genomics. Trends in Genetics 12:606-615[†]
Citations: 7

35. Muñoz Diez C, Vitte C, **Ross-Ibarra J**, Gaut BS, Tenailon MI (2012) Using nextgen sequencing to investigate genome size variation and transposable element content. In Grandbastien M-A, Casacuberta JM, editors. Topics in Current Genetics v24: Plant Transposable Elements - Impact on Genome Structure & Function. pp. 41-58
Citations: 5

34. **van Heerwaarden J[§], Hufford MB, Ross-Ibarra J[§]** (2012) Historical genomics of North American maize. PNAS 109: 12420-12425
Citations: 32
33. Swanson-Wagner R, Briskine R, Schaefer R, **Hufford MB, Ross-Ibarra J**, Myers CL, Tiffin P, Springer NM (2012) Reshaping of the maize transcriptome by domestication. PNAS 109: 11878-11883
Citations: 30
32. **Hufford MB^{*}, Xun X^{*}, van Heerwaarden J^{*}, Pyhäjärvi T^{*}**, Chia J-M, Cartwright RA, Elshire RJ, Glaubitz JC, Guill KE, Kaeppler S, Lai J, Morrell PL, Shannon LM, Song C, Springer NM, Swanson-Wagner RA, Tiffin P, Wang J, Zhang G, Doebley J, McMullen MD, Ware D, Buckler ES[§], Yang S[§], **Ross-Ibarra J[§]** (2012) Comparative population genomics of maize domestication and improvement. Nature Genetics 44:808-811[†]
Citations: 182
31. Chia J-M^{*}, Song C^{*}, Bradbury P, Costich D, de Leon N, Doebley JC, Elshire RJ, Gaut BS, Geller L, Glaubitz JC, Gore M, Guill KE, Holland J, **Hufford MB**, Lai J, Li M, Liu X, Lu Y, McCombie R, Nelson R, Poland J, Prasanna BM, **Pyhäjärvi T**, Rong T, Sekhon RS, Sun Q, Tenaillon M, Tian F, Wang J, Xu X, Zhang Z, Kaeppler S, **Ross-Ibarra J**, McMullen M, Buckler ES, Zhang G, Xu Y, Ware, D (2012) Maize HapMap2 identifies extant variation from a genome in flux. Nature Genetics 44:803-807[†]
Citations: 160
30. Fang Z, **Pyhäjärvi T**, Weber AL, Dawe RK, Glaubitz JC, Sánchez González J, **Ross-Ibarra C**, Doebley J, Morrell PL[§], **Ross-Ibarra J[§]** (2012) Megabase-scale inversion polymorphism in the wild ancestor of maize. Genetics 191:883-894
Citations: 16
29. Cook JP, McMullen MD, Holland JB, Tian F, Bradbury P, **Ross-Ibarra J**, Buckler ES, Flint-Garcia SA (2012) Genetic architecture of maize kernel composition in the Nested Association Mapping and Inbred Association panels. Plant Physiology 158: 824-834
Citations: 95
28. Morrell PL, Buckler ES, **Ross-Ibarra J[§]** (2012) Crop genomics: advances and applications. Nature Reviews Genetics 13:85-96[†]
Citations: 152
27. Studer A, Zhao Q, **Ross-Ibarra J**, Doebley J (2011) Identification of a functional transposon insertion in the maize domestication gene *tb1*. Nature Genetics 43:1160-1163.
Citations: 129
26. **van Heerwaarden J[§]**, Doebley J, Briggs WH, Glaubitz JC, Goodman MM, Sánchez González JJ, **Ross-Ibarra J[§]** (2011) Genetic signals of origin, spread and introgression in a large sample of maize landraces. PNAS 108: 1088-1092
Citations: 109
25. **Hufford MB[§]**, Gepts P, **Ross-Ibarra J** (2011) Influence of cryptic population structure on observed mating patterns in the wild progenitor of maize (*Zea mays* ssp. *parviglumis*). Molecular Ecology 20: 46-55
Citations: 8

24. Tenaillon MI, **Hufford MB**, Gaut BS, **Ross-Ibarra J^S** (2011) Genome size and TE content as determined by high-throughput sequencing in maize and *Zea luxurians*. Genome Biology and Evolution 3: 219-229
Citations: 63
23. Eckert AJ, **van Heerwaarden J**, Wegrzyn JL, Nelson CD, **Ross-Ibarra J**, González-Martínez SC, and Neale DB (2010) Patterns of population structure and environmental associations to aridity across the range of loblolly pine (*Pinus taeda* L, Pinaceae). Genetics 185: 969-982
Citations: 156
22. Fuchs EJ, **Ross-Ibarra J^S**, Barrantes G (2010) Reproductive biology of *Macleania rupestris*: a pollen- limited Neotropical cloud-forest species in Costa Rica. Journal of Tropical Ecology 26: 351-354
Citations: 2
21. Whitney KD, Baack EJ, Hamrick JL, Godt MJW, Barringer BC, Bennett MD, Eckert CG, Goodwillie C, Kalisz S, Leitch I, **Ross-Ibarra J** (2010) A role for nonadaptive processes in plant genome size evolution? Evolution 64: 2097-2109
Citations: 45
20. **van Heerwaarden J**, **Ross-Ibarra J^S**, Doebley J, Glaubitz JC, Sánchez González J, Gaut BS, Eguiarte LE (2010) Fine scale genetic structure in the wild ancestor of maize (*Zea mays* ssp. *parviglumis*). Molecular Ecology 19: 1162-1173
Citations: 18
19. Shi J, Wolf S, Burke J, Presting G, **Ross-Ibarra J**, Dawe RK (2010) High frequency gene conversion in centromere cores. PLoS Biology 8: e1000327
Citations: 51
18. Hollister JD, **Ross-Ibarra J**, Gaut BS (2010) Indel-associated mutation rate varies with mating system in flowering plants. Molecular Biology and Evolution 27: 409-416.
Citations: 21
17. **van Heerwaarden J**, van Eeuwijk FA, **Ross-Ibarra J** (2010) Genetic diversity in a crop metapopulation. Heredity 104: 28-39
Citations: 23
16. Gore MA*, Chia JM*, Elshire RJ, Sun Q, Ersoz ES, Hurwitz BL, Peiffer JA, McMullen MD, Grills GS, **Ross-Ibarra J**, Ware DH, Buckler ES (2009) A first-generation haplotype map of maize. Science 326: 1115-1117.
Citations: 370
15. **May MR[†]**, **Provance MC**, Sanders AC, Ellstrand NC, **Ross-Ibarra J^S** (2009) A pleistocene clone of Palmer's Oak persisting in Southern California. PLoS ONE 4: e8346.
Citations: 12
14. Zhang LB, Zhu Q, Wu ZQ, **Ross-Ibarra J**, Gaut BS, Ge S, Sang T (2009) Selection on grain shattering genes and rates of rice domestication. New Phytologist 184: 708-720.
Citations: 68
13. **Ross-Ibarra J**, Tenaillon M, Gaut BS (2009) Historical divergence and gene flow in the genus *Zea*. Genetics 181: 1399-1413.
Citations: 75

12. **Ross-Ibarra J**^{*}, Wright SI^{*}, Foxe JP, Kawabe A, DeRose-Wilson L, Gos G, Charlesworth D, Gaut BS (2008) Patterns of polymorphism and demographic history in natural populations of *Arabidopsis lyrata*. PLoS ONE 3: e2411.
Citations: 109
11. Lockton S, **Ross-Ibarra J**, Gaut BS (2008) Demography and weak selection drive patterns of transposable element diversity in natural populations of *Arabidopsis lyrata*. PNAS 105: 13965-13970.
Citations: 49
10. **Ross-Ibarra J**^S, Gaut BS (2008) Multiple domestications do not appear monophyletic. PNAS 105: E105 (letter).
Citations: 12
9. Gaut BS, **Ross-Ibarra J** (2008) Selection on major components of angiosperm genomes. Science 320: 484-486.
Citations: 48
8. **Ross-Ibarra J**, Morrell PL, Gaut BS (2007) Plant domestication, a unique opportunity to identify the genetic basis of adaptation. PNAS 104 Suppl 1: 8641-8648.
Citations: 172
7. **Ross-Ibarra J**^S (2007) Genome size and recombination in angiosperms: a second look. Journal of Evolutionary Biology 20: 800-806.
Citations: 17
6. Wares JP, Barber PH, **Ross-Ibarra J**, Sotka EE, Toonen RJ (2006) Mitochondrial DNA and population size. Science 314: 1388-90 (letter).
Citations: 26
5. **Ross-Ibarra J**^S (2005) QTL and the study of plant domestication. Genetica 123: 197-204.
Citations: 22
4. **Ross-Ibarra J**^S (2004) The evolution of recombination under domestication: a test of two hypotheses. American Naturalist 163: 105-112.
Citations: 47
3. **Ross-Ibarra J** (2003) Origin and domestication of chaya (*Cnidoscolus aconitifolius* Mill I. M. Johnst): Mayan spinach. Mexican Studies 19: 287-302.
Citations: 3
2. **Ross-Ibarra J**^S, Molina-Cruz A (2002) The ethnobotany of Chaya (*Cnidoscolus aconitifolius* ssp. *aconitifolius* Breckon): A nutritious Maya vegetable. Economic Botany 56: 350-365.
Citations: 32
1. Neel MC, **Ross-Ibarra J**, Ellstrand NC (2001) Implications of mating patterns for conservation of the endangered plant *Eriogonum ovalifolium* var. *vineum*. American Journal of Botany 88: 1214-1222.
Citations: 29

Active Grants

Agency, Grant Number	Title	Award Period	Principle Investigator
UC-MEXUS	Adaptive Gene Flow from Teosinte to Highland Maize in Central Mexico	7/2015-12/2016	Jeffrey Ross-Ibarra
Smithsonian Institution	Phenotypes, environmental plasticity, and gene expression in teosinte and maize in ancient climates before and during the time of domestication	1/2015-1/2017	Dolores Piperno
NSF, 1404974	US-Mexico planning visit and workshop to assess the genomic basis of local adaptation in maize	9/2014-8/2016	Matthew Hufford
NSF, 1238014	Biology of Rare Alleles in Maize and Its Wild Relatives	5/2013 - 4/2018	Edward Buckler
NSF, 0922703	Functional Genomics of Maize Centromeres	6/2010 - 5/2016	R. Kelly Dawe