Jeffrey Ross-Ibarra

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Honors and Awards

Stadler Mid-Career Excellence in Maize Genetics Award 2016
Faculty Development Award in recognition of university service 2015

Teaching and Advising

Instruction

Instructor, Frontiers and Techniques in Plant Science, CSHL, July 2015

Genetics (UC Davis, BIS 101, undergraduate), 2013-2018

Ecological Genomics (UC Davis, ECS243, graduate), 2014-2018

Faculty advisor, Pioneer Hi-Bred/CAES graduate student symposium in plant breeding, 2012-2018

Faculty advisor, US-Mexico graduate student exchange program, 2011-2015

Guest lecturer, Plant Biology Core Course, guest lecturer, Fall 2015

Advising

Postdoctoral:

blah

Graduate:

Paul Bilinski (Graduated, currently faculty at)

Dissertation Committees:

blah

Undergraduate:

Service: selected from last 2 years

Department

Section Chair for Agricultural Plant Biology, 2014-2018
Plant Sciences executive committee, 2014-2018
Dept. of Plant Sciences academic planning committee, 2010-2016, 2018
Hatch/AES review, Plant Sciences 2018
Junior faculty mentor committee, Plant Sciences, 2017
Member, search committee on Climate Adaptation, 2017

College

College review, NSF limited submission, 2018

Chair, Search Committee for Dept. Chair of Plant Sciences, 2016

University

Campus Disciplinary Peer Review committee on sexual violence and sexual harassment, 2017-2018

Campus Task Force on Bioinformatics, 2017-2018

Campus High Performance Computing Advisory Committee, 2016-2018

Genome Center Bioinformatics Core Advisory Board, 2016

UC Davis representative, UC-Mexico Initiative committee on the environment, 2014-2016

Admissions committees: Population Biology, 2015; Ecology, 2015

Professional

Maize Genetics Steering Committee, 2018

Maize Genetics Awards Committee, 2017

Advisory Board, PeerJ Preprints, 2016-2018

External search committee, Dept. Plant Biology, Swedish University of Agricultural Sciences (2016)

Editorial Boards (manuscripts handled during review period in parentheses):

- Senior Editor, Genes, Genomes, and Genetics, 2017-2018 (110)
- Associate Editor, Genes, Genomes, and Genetics, 2014-2018 (36)
- Senior Editor, PeerJ, 2018 (unknown, >10)
- Academic Editor, PeerJ, 2013-2018 (11)
- Associate Editor, Genetics, 2018 (1)
- Associate Editor, PLoS Genetics, 2018 (2)
- Guest Editor, PLoS Genetics, 2016-2017 (2)
- Editor, Axios Reviews (now defunct), 2013-2017 (2)
- Guest Editor, PNAS, 2018 (1)
- Guest Editor, eLife, 2016 (1)

Journal peer review: 33 papers during review period, including for Nature, Cell, Nature Genetics, Nature Communications, Nature Plants, PNAS, Plant Cell, eLife, Genome Research, Trends in Plant Science, and Current Biology

Public Outreach

Woodland Public Library Science & Society Discussion Series, Aug 2018

Skype A Scientist: 6 presentations to public K-12 classrooms in the US (4 states) and Spain (in Spanish), 2017-2018

TapRoot podcast episode on authorship and work/life balance, Aug 2017

Davis Science Cafe, Aug 2016

UC Master Gardeners, May 2016

Research

New Grants

NSF: "The Evolutionary Genetics of Pollen-Pistil Incompatibility and Reproductive Isolation in *Zea mays*" (CoPI, $305,000 to JRI) 2018-2021

NSF: "The genetics of highland adaptation in maize" (PI, $4,100,000 to JRI), 2016-2021

UC-Mexico Initiative: "Maize adaptation to climate in Mexico" (PI, $30,000 to JRI), 2015-2016

Mars Corp: "Mechanisms of nitrogen fixation" (collaborator, ≈$75K to JRI), 2014-2017

Other Currently Active Grants

NSF: "Biology of Rare Alleles" (Co-PI, $3.2M to JRI), 2013-2019

Invited Seminars

National Science Foundation, Washington DC, Sept 2018

U. Georgia, Athens, Aug 2018

Fisher Biosciences, Santa Clara, July 2018

Corteva Agriscience, Johnston, July 2018

Plenary Speaker, Maize Genetics Conference, Saint-Malo, France, Mar 2018

University of Paris-Saclay, Gif-sur-Yvette, France, Mar 2018

U. California, Davis, Mar 2018

Plant And Animal Genome Conference (two workshops), San Diego, Jan 2018

U. Nebraska, Lincoln, Nov 2017

U. Colorado, Boulder, Oct 2017

SMBE structural variation symposium, San Antonio, July 2017

Harris Moran Breeding, Davis, Feb 2017

SMBE domestication symposium, Queensland, Australia, July 2016

U. Arizona, Tucson, Apr. 2016

Joint Genome Institute, Walnut Creek, Mar. 2016

U. Southern California, Los Angeles, Feb. 2016

LANGEBIO, Irapuato, Mexico, Nov. 2015

Publications *(lab members bold, *equal contribution, ‡undergraduate, §corresponding, citations in [])*

H-Index 21 (5935 citations as of Tue Aug 21 14:45:57 2018; 2,696 citations in 2016-2018)

Peer Reviewed Journal Articles

23. **O'Brien A**§, Sawers R, **Ross-Ibarra J**, Strauss SY§ (2018) Evolutionary responses to conditionality in species interactions across environmental gradients. American Naturalist *Accepted* [2]

22. **Stitzer MC**, **Ross-Ibarra J** (2018) Maize domestication and gene interaction. New Phytologist *In Press* [1]

21. Dawe RK, Lowry EG, Gent J, **Stitzer MC**, Higgins DM, **Ross-Ibarra J**, Wallace JG, Kanizay L, Alabady M, Wang N, Gao Z, Birchler J, Harkess AE, Hodges AL, Hiatt EN (2018) A novel maize kinesin causes neocentromere activity and meiotic drive, altering inheritance patterns across the genome. Cell 173: 839-850. [3]

20. Aburto-Oropeza O, Johnson A, Agha M, Allen E, Allen M, González JA, Arenas-Moreno DM, Beas R, Butterfield H, Caetano G, Caselle J, Casteñada Gaytán G, Castorani MCN, Anh Cat L, Cavanaugh K, Chambers JQ, Cooper RD, Arafeh-Dalmau N, Dawson T, Diaz de la Vega A, DiMento JFC, Domínguez S, Edwards M, Ennen J, Estrada-Medina H, Fierro N, Gadsden H, Galina-Tessaro P, Gibbons P, Goode EV, Gorris ME, Harmon T, Hecht SB, Heredia Fragoso MA, Hernández-Solano A, Hernández-Cortés D, Hernández-Carmona G, Hillard S, Huey RB, Hufford MB, Pàramo Figueroa VH, Jenerette D, Jiménez-Osornio J, López-Nava KJ, Lara R, Leslie H, Lopez-Feldman A, Luja V, Martínez-Méndez N, Mautz W, Medellin-Azuara J, Meléndez-Torres C, de la Cruz FRM, Micheli F, Miles D, Montagner G, Montaño-Moctezuma G, Müller J, Oliva P, Ortinez A, Ortiz Partida JP, Palleiro-Nayar J, Parnell PE, Raimondi P, Ramirez A, Randerson JT, Reed DC, Riquelme M, Torres TR, Rosen PC, **Ross-Ibarra J**, Sanchez-Cordero V, Sandoval-Solis S, Santos J, Sawers R, Sinervo B, Sites J, Sosa-Nishizaki O, Stanton T, Stapp J, Stewart J, Torre J, Torres-Moye G, Treseder KK, Valdez-Villavicencio JH, Jiménez FIV, Vaughn M, Welton L, Westphal MF, Woolrich-Piña G, Yunez-Naude A, Zertuche-González JA, Taylor JE (2018) Harnessing Cross-border Resources to Confront Climate Change. Environmental Science and Policy *In Press*. [0]

19. **Bilinski P**[§], Albert P, Berg JJ, Birchler JA, Grote M, **Lorant A**, **Quezada J**[‡], Swarts, K, **Yang J**, **Ross-Ibarra J**[§] (2018) Parallel altitudinal clines reveal adaptive evolution of genome size in *Zea mays*. PLoS Genetics 14: e1007162 [8]

18. **Mei W**, **Stetter MG**, **Gates DJ**, **Stitzer MC**, **Ross-Ibarra J**[§] (2018) Adaptation in plant genomes: bigger is different. American Journal of Botany 105: 16-19 [6]

17. Bukowski R, Guo X, Lu Y, Zou C, He B, Rong Z, Wang B, Xu D, Yang B, Xie C, Fan L, Gao S, Xu X, Zhang G, Li Y, Jiao Y, Doebley J, **Ross-Ibarra J**, **Lorant A**, **Buffalo V**, Romay MC, Buckler ES, Ware D, Lai J, Sun Q , Xu Y (2017) Construction of the third generation *Zea mays* haplotype map. GigaScience gix134 [19]

16. Wang L, **Beissinger TM**, **Lorant A**, **Ross-Ibarra C**, **Ross-Ibarra J**[§], Hufford MB[§] (2017) The interplay of demography and selection during maize domestication and diffusion. Genome Biology 18:215 [13]

15. **Yang J**[*§], **Mezmouk S**[*], Baumgarten A, Buckler ES, Guill KE, McMullen MD, Mumm RH, **Ross-Ibarra J**[§] (2017) Incomplete dominance of deleterious alleles contribute substantially to trait variation and heterosis in maize. PLoS Genetics 13:e1007019 [9]

14. **Lorant A**, Pedersen S, Holst I, Hufford MB, Winter K, Piperno D, **Ross-Ibarra J**[§] (2017) The potential role of genetic assimilation during maize domestication. PLoS ONE 12:e0184202 [1]

13. Aguilar-Rangel MR, Chàvez Montes RA, Gonzalez-Segovia E, **Ross-Ibarra J**, Simpson JK, Sawers RJH (2017) Allele specific expression analysis identifies regulatory variation associated with stress-related genes in the Mexican highland maize landrace Palomero Toluqueño. PeerJ 5:e3737 [2]

12. **Stetter MG**[§], **Gates DJ**, **Mei W**, **Ross-Ibarra J**[§] (2017) How to make a domesticate. Current Biology 27:R896-R900 [3]

11. Swarts K, Gutaker RM, Schuenemann V, Benz B, Blake M, Bukowski R, Holland J, Kruse-Peeples M, Lepak N, Matson RG, Prim L, Romay C, **Ross-Ibarra J**, Sanchez J, Schmidt C, Sofro E, Krause J, Weigel D, Buckler ES, Burbano HA (2017) Genomic estimation of complex traits reveals ancient maize adaptation to temperate North America. Science 357:512-515 [17]

10. **Bilinski P**§, Han Y, **Hufford MB**, **Lorant A**, Zhang P, Jiang J, **Ross-Ibarra J**§ (2017) Diverse origins of high copy tandem repeats in grass genomes. PLoS ONE 12:e0177896 [0]

9. Jiao Y, Peluso P, Shi J, Liang T, **Stitzer MC**, Wang B, Campbell M, Stein JC, Wei X, Chin C-S, Guill K, Regulski M, Kumari S, Olson A, Gent J, Schneider KL, Wolfgruber TK, May MR, Springer N, Antoniou E, McCombie R, Presting GG, McMullen M, **Ross-Ibarra J**, Dawe RK, Hastie A, Rank DR, Ware D (2017) Improved maize reference genome with single-molecule technologies. Nature 546:524-527 [98]

8. **Renny-Byfield S**§, Rodgers-Melnick E, **Ross-Ibarra J**§ (2017) Gene fractionation and function in the ancient subgenomes of maize. MBE 34:1825-1832 [10]

7. **Velasco D**, Aradhya M, and and **Ross-Ibarra J**§ (2016) Evolutionary genomics of peach and almond domestication. G3 6:3985-3993 [12]

6. Ramos-Madrigal J, Smith BD, Moreno-Mayar JV, Gopalakrishnan S, **Ross-Ibarra J**, Gilbert MTP, Wales N (2016) Genome sequence of a 5310-year-old maize cob provides insights into the early stages of maize domestication. Current Biology 26:3195-3201 [12]

5. **Durvasula A**‡*, Hoffman PJ*, **Kent TV**‡, Liu C, Kono TJY, Morrell PL§, **Ross-Ibarra J**§ (2016) ANGSD-wrapper. Molecular Ecology Resources 16:1449-1454 [3]

4. **Beissinger TM**§, Wang L, **Crosby K**, **Durvasula A**‡, Hufford MB, **Ross-Ibarra J**§ (2016) Recent demography drives changes in linked selection across the maize genome. Nature Plants 2:16084 [31]

3. Wolfgruber TK, Nakashima MM, Schneider KL, Sharma A, Xie Z, Albert PS, Xu R, **Bilinski P**, Dawe RK, **Ross-Ibarra J**, Birchler JA, Presting G (2016) High quality maize centromere 10 sequence reveals evidence of frequent recombination events. Frontiers In Plant Science 7 [12]

2. Orozco-Ramìrez Q, Santacruz-Varela A, **Ross-Ibarra J**, Brush B (2016) Maize diversity associated with social origin and environmental variation in southern Mexico. Heredity 116:477-484. [12]

1. Gerke JP§, Edwards JW, Guill KE, **Ross-Ibarra J**§, McMullen MD. The genomic impacts of drift and selection for hybrid performance in maize (2015). Genetics 201: 1201âĂŞ1211 [16]

Book Chapters

2. Manchanda N, Snodgrass SJ, **Ross-Ibarra J**, Hufford MB (2018) Evolution and adaptation in the maize genome. *In* The Zea mays Genome, Bennetzen, Flint-Garcia, Hirsch, Tuberosa (Eds.), Springer Nature Publishing *In Press* [0]

1. **Anne Lorant**, **Ross-Ibarra J**, Maud Tenaillon (2018) Genomics of long- and short- term adaptation in maize and teosinte. *In* Statistical Population Genomics, Dutheil (Ed.), Springer Nature Publishing *In Press* [0]