

Nadia D. Singh

University of Oregon
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EDUCATION

Stanford University, Ph.D. in Biological Sciences (Dmitri Petrov, advisor)	2001-2006
Harvard University, Bachelor of Arts <i>magna cum laude</i> in Biology	1996-1999
University of Chicago, coursework towards Bachelor of Arts	1994-1995

PROFESSIONAL EMPLOYMENT

University of Oregon, Associate Professor, Department of Biology	2016-present
University of Oregon, Associate Vice President of Research, Office of the Vice President of Research and Innovation	2020-2022
North Carolina State University, Associate Professor, Department of Biological Sciences	2016-2017
North Carolina State University, Assistant Professor, Department of Biological Sciences	2013-2016
North Carolina State University, Assistant Professor, Department of Genetics	2010-2013
Cornell University, Postdoctoral Fellow, Department of Molecular Biology and Genetics (Andrew Clark, Charles Aquadro, advisors)	2006-2010
Harvard School of Public Health, Laboratory technician, Program for Human Population Genetics (PI: Xiping Xu)	2000-2001
Harvard University, Research assistant, Department of Organismic and Evolutionary Biology (PI: Stephen Palumbi)	1997-1999
Georgetown University Medical Center, Laboratory technician, Department of Pharmacology (PI: Robert Glazer)	1996

PEER REVIEWED ARTICLES ([‡] denotes undergraduate author)

- 40) Frantz, S. I., C. M. Small, W. A. Cresko and N. D. Singh. Ovarian transcriptomics of *Drosophila melanogaster* reveals candidate genes underlying Wolbachia-associated plastic recombination. *G3: Genes, Genomes, Genetics* (*in press*).
- 39) Winbush, A and N. D. Singh. 2022. Variation in fine-scale recombination rate in temperature-evolved *Drosophila melanogaster* populations in response to selection. *G3: Genes, Genomes, Genetics* jkac208.
- 38) Mostoufi, S. and N. D. Singh. 2022. Diet-induced changes in titer support a discrete effect of Wolbachia-associated plastic recombination in *Drosophila melanogaster*. *G3: Genes, Genomes, Genetics* 12(1).
- 37) Belmonte-Tebar, A., E. San Martin Perez, S. Nam Cha, A. Josefa Soler Valls, N. D. Singh, Elena de la Casa-Esperon. 2022. Diet effects on mouse meiotic recombination studies: a warning for recombination studies. *Genetics* 220(1).
- 36) Winbush, A., and N. D. Singh. 2021. The genetic basis of divergence in recombination rate revealed by whole genome sequencing of experimentally-evolved populations of *Drosophila melanogaster*. *Genome Biology and Evolution*, 13(1) evaa252.
- 35) Singh, N. D. 2019. Wolbachia infection associated with increased recombination in *Drosophila*. *G3: Genes, Genomes, Genetics*, 9(1) 229-237.
- 34) Kohl, K. P. and N. D. Singh. 2018. Experimental evolution across different thermal regimes yields genetic divergence in recombination fraction but no divergence in temperature-associated plastic recombination. *Evolution* 72(4): 989-999.

- 33) Fraimout, A., V. Debat, S. Fellous, R. A. Hufbauer, J. Foucaud, P. Pudlo, J. Marin, D. K. Price, J. Cattell, X. Chen, M. Depra, P. F. Duyck, C. Guedot, M. Kenis, M. T. Kimura, G. Loeb, A. Loiseau, I. Martinez-Sanuda, M. Pascual, M. P. Richmond, P. Shearer, N. Singh, K. Tamura, A. Xuereb, J. Zhang, and A. Estoup. 2017. Deciphering the routes of invasion by *Drosophila suzukii* by means of ABC Random Forest. *Molecular Biology and Evolution* 34(4): 980-996.
- 32) Ritz, K. R., M. A. F. Noor, and N. D. Singh. 2017. Variation in recombination rate: Adaptive or Not? *Trends in Genetics* 33(5): 364-374.
- 31) Kuzu, G., E. Kaye, J. Chery, T. Siggers, L. Yang, J. Dobson, S. Boor, J. Bliss, W. Lu, G. Jögl, R. Rohs, N. D. Singh, M. Bulyk, M. Tostorukov, and E. Larschan. 2016. Expansion of GA dinucleotide repeats on the X chromosome promotes the evolution of *Drosophila* dosage compensation. *PLOS Genetics* 12(7): e1006120.
- 30) Hunter, C. M., M. C. Robinson, D. L. Aylor and N. D. Singh. 2016. Genetic background, maternal age, and interaction effects mediate rates of crossing over in *Drosophila melanogaster* females. *G3: Genes, Genomes, Genetics* 6(5):1409-1416.
- 29) Hunter, C. M., W. Huang, T. F. C. Mackay, and N. D. Singh. 2016. The Genetic architecture of recombination rate variation in *Drosophila melanogaster*. *PLOS Genetics* 12(4): e1005951.
- 28) Dumont, B. L., A. A. Devlin, D. M. Truempy[‡], J. C. Miller and N. D. Singh. 2015. No evidence that infection alters global recombination rate in house mice. *PLOS ONE* 10(11): e0142266.
- 27) Singh, N. D., D. Criscoe[‡], S. Skofield[‡], K. P. Kohl, E. S. Keebaugh, and T. A. Schlenke. 2015. Fruit flies diversify their offspring in response to parasite infection. *Science* 349 (6249):747-750.
- 26) Jackson, S.[‡], D. M. Nielsen and N. D. Singh. 2015. Increased exposure to acute thermal stress is associated with a non-linear decrease in fitness in *Drosophila*. *BMC Evolutionary Biology* 15:175
- 25) O'Shea, K.L.[‡] and N. D. Singh. 2015. Tetracycline-exposed *Drosophila melanogaster* females produce fewer offspring but a relative excess of sons. *Ecology and Evolution* 5(15):3130-3139.
- 24) Adrion, J.R.[‡], A. Kousathanas, M. Pascual, H. J. Burrack, N. M Haddad, A. O. Bergland, H. Machado, T. B. Sackton, T. A. Schlenke, M. Watada, D. Wegmann, and N. D. Singh. 2014. *Drosophila suzukii*: The Genetic footprint of a recent, world-wide invasion. *Molecular Biology and Evolution* 31:3148-3163.
- 23) Singh, N. D., L. B. Koerich, A. B. Carvalho, and A. G. Clark. 2014. Positive and purifying selection on the *Drosophila* Y Chromosome. *Molecular Biology and Evolution* 31:2612-2623.
- 22) Hunter, C. M. and N. D. Singh. 2014. Do males matter? Testing the effects of male genetic background on female meiotic crossover rates in *Drosophila melanogaster*. *Evolution* 68(9):2718-2726.
- 21) Robinson, M. C., E. A. Stone, and N. D. Singh. 2014. Population genomic analysis reveals no evidence for GC-biased gene conversion in *Drosophila melanogaster*. *Molecular Biology and Evolution* 31(2):425-433.
- 20) Singh, N. D., E. A. Stone, C. F. Aquadro and A. G. Clark. 2013. Fine-scale heterogeneity in crossover rate in the *garnet-scalloped* region of the *D. melanogaster* X chromosome. *Genetics* 194(2):375-87.
- 19) Singh, N. D., J. D. Jensen, A. G. Clark and C. F. Aquadro. 2013. Inferences of demography and selection in an African population of *D. melanogaster*. *Genetics* 193:215-228.
- 18) Connallon, T., N. D. Singh, and A. G. Clark. 2012. Impact of genetic architecture on the relative rates of X versus autosomal adaptive substitution. *Molecular Biology and Evolution* 29:1933-1942.
- 17) Fiston-Lavier, A. S., N. D. Singh, M. Lipatov and D. A. Petrov. 2010. *Drosophila melanogaster* recombination rate calculator. *Gene* 363:18-20.

- 16) Singh, N. D., C. F. Aquadro, and A. G. Clark. 2009. Estimation of fine-scale recombination intensity variation in the *white-echinus* region of *D. melanogaster*. *Journal of Molecular Evolution* 69(1):42-53.
- 15) Singh, N. D., P. F. Arndt, A. G. Clark and C. F. Aquadro. 2009. Strong evidence for lineage- and sequence-specificity of substitution rates and patterns in *Drosophila*. *Molecular Biology and Evolution* 26(7):1591-1605.
- 14) Nishant, K. T., N. D. Singh, and E. Alani. 2009. Genomic mutation rates: What high through-put methods can tell us. *Bioessays* 31(9):912-920.
- 13) Bauer DuMont, V. L., N. D. Singh, M. H. Wright, and C. F. Aquadro. 2009. Locus-specific decoupling of base composition evolution at synonymous sites and introns along the *Drosophila melanogaster* and *Drosophila sechellia* lineages. *Genome Biology and Evolution* 2009:67-74.
- 12) Singh, N. D., A. M. Larracuenta and A. G. Clark. 2008 Contrasting the efficacy of selection on the X and autosomes in *Drosophila*. *Molecular Biology and Evolution* 25(2):454-467.
- 11) Larracuenta, A. M., T. B. Sackton, A. Greenberg, A. Wong, N. D. Singh, D. Sturgill, Y. Zhang, B. Oliver and A. G. Clark. Protein-coding gene evolution in *Drosophila*. 2007. *Trends in Genetics* 24(3):114-123.
- 10) Singh, N. D., V. L. Bauer DuMont, M. J. Hubisz, R. Nielsen, and C. F. Aquadro. 2007. Patterns of mutation and selection at synonymous sites in *Drosophila*. *Molecular Biology and Evolution* 24(12):2687-2697.
- 9) *Drosophila* 12 Genomes Consortium. 2007. Evolution of genes and genomes on the *Drosophila* phylogeny. *Nature* 450 (7167):203-218.
- 8) Singh, N. D., J. M. Macpherson, J. D. Jensen, and D. A. Petrov. 2007. Similar levels of X-linked and autosomal nucleotide polymorphism in African and non-African strains of *Drosophila melanogaster*. *BMC Evolutionary Biology* 7:202.
- 7) Singh, N. D., P. F. Arndt, and D. A. Petrov. 2006. Minor shift in background substitutional patterns in the *Drosophila saltans* and *willistoni* lineages is insufficient to explain GC content of coding sequences. *BMC Biology* 4:37.
- 6) Singh, N. D., J. C. Davis, and D. A. Petrov. 2005. X-linked genes evolve higher codon bias in *Drosophila* and *Caenorhabditis*. *Genetics* 171:145-155.
- 5) Singh, N. D., J. C. Davis, and D. A. Petrov. 2005. Codon bias and noncoding GC content correlate negatively with recombination rate on the *Drosophila* X chromosome. *Journal of Molecular Evolution* 61:315-324.
- 4) Singh, N. D., P. F. Arndt, and D. A. Petrov. 2005. Genomic heterogeneity of background substitutional patterns in *Drosophila melanogaster*. *Genetics* 169:709-722.
- 3) Singh, N. D., and D. A. Petrov. 2004. Rapid sequence turnover at an intergenic locus in *Drosophila*. *Molecular Biology and Evolution* 21:670-680.
- 2) Seielstad, M., N. Yuldasheva, N. Singh, P. Underhill, P. Oefner, P. Shen, and R. S. Wells. 2003. A Novel Y-chromosome variant puts an upper limit on the timing of first entry into the Americas. *American Journal of Human Genetics* 73:700-705.
- 1) Drici, M. D., S. Ahmad, N. Singh, I. Ducic, R. Glazer, M. Morad, and R. L. Woosley. 1997. Gender difference in I-sK protein in isolated rabbit heart is linked to differences in I-KS in isolated myocytes. *Clinical Pharmacology & Therapeutics* 61:203.

INVITED BOOK CHAPTERS, REVIEW ARTICLES, AND PERSPECTIVES

- 7) Singh, N. D. and N. Bhalla. 2020. Moonlighting proteins. *Annual Review of Genetics* 54:265-285.
- 6) Stone, E. A. and N. D. Singh. 2016. Bias-variance tradeoffs in recombination rate estimation. *Genetics* 202(2): 857-9.

- 5) Singh, N. D. 2012. Classical genetics meets next-generation sequencing: Uncovering a genome-wide recombination map in *Drosophila melanogaster*. PLoS Genetics 8(10):e1003024.
- 4) Singh, N. D. and K. L. Shaw. 2012. On the scent of pleiotropy. Proceedings of the National Academy of Sciences (USA). 109(1):5-6.
- 3) Singh, N. D., A. M. Larracuente, T. B. Sackton and A. G. Clark. 2009. Comparative genomics on the *Drosophila* phylogenetic tree. Annual Review of Ecology, Evolution, and Systematics. 40(10):459-480.
- 2) Singh, N. D. and D. A. Petrov. 2007. Evolution of gene function on the X chromosome and the autosomes in Jean-Nicolas Volf, ed. Genome Dynamics volume 3: Gene and Protein Evolution. Karger, Wurzburg, Germany.
- 1) Srikummool, M., D. Kangwanpong, N. Singh, and M. Seielstad. 2001. Y-chromosomal variation in uxori-local and patrilo-cal populations in Thailand in L. Jin, M. Seielstad, and C. Xiao, eds. Genetic, Linguistic, and Archeological Perspectives on Human Diversity in Southeast Asia. World Scientific Publishing, River Edge, New Jersey.

GRANT SUPPORT

Current Support

Project Title - Collaborative Research: AGEPAACA to engage leaders to improve diversity among STEM faculty

Investigator(s): M. Htun, E. Godwin, M. Hinojosa, N.D. Singh, and B. Aleman

Objectives: Use managerial approach to improve recruitment and retention among STEM faculty

Sponsor: National Science Foundation

Funding: \$100,501 (\$68,669 direct)

Project Title: CAREER: The Evolution of fine-scale recombination landscapes.

Investigator(s): N. D. Singh

Objectives: To quantify population level variation in fine-scale recombination landscapes. To assess effects of fine scale heterogeneity in recombination for polymorphism and divergence.

Sponsor: National Science Foundation (DEB- 1552040)

Funding: \$1,249,869 (\$848,281 direct; 8/1/2016-7/31/2023)

Pending Support

Project Title – NIH R25 University of Oregon Postbaccalaureate Education Program

Investigator(s): N. D. Singh

Objectives: Establish a postbaccalaureate program at UO aimed at diversifying the biomedical workforce

Sponsor: National Institutes of Health

Funding: \$2,150,590 (\$1,991,285 direct)

Completed Support

Project Title - Research Experience for Post-Baccalaureate Students (REPS) in the Biological Sciences Supplement to CAREER: The Evolution of fine-scale recombination landscapes.

Investigator(s): N.D. Singh

Objectives: Provide hands on experience for a promising scholar to obtain hands-on research experience in evolutionary genetics research.

Sponsor: National Science Foundation (DEB- 1818490)

Funding: \$42,675 (\$40,300 direct)

Project Title: The Genetic basis of phenotypic plasticity in meiotic recombination rate

Investigator(s): Singh, N.D.

Objectives: To determine the genetic basis of population-level variation in meiotic recombination rate. To determine the genes mediating changes in recombination rate in response to the environment.

Sponsor: National Science Foundation (MCB-1412813)
Funding: \$619,708 (\$430,568 direct; 8/1/2014-7/31/2019)

Project Title: Quantification of fine-scale variation in recombination rate in *Drosophila* using targeted next-generation sequencing

Investigator(s): Clark, A. G., N. D. Singh and C. F. Aquadro

Objectives: To produce an ultra-fine-scale map of recombination intensity in a 2.1 Mb region of the *D. melanogaster* X chromosome.

Sponsor: Cornell Center for Comparative and Population Genomics
Funding: \$13,268 (\$13,268 direct; 6 months; 01/01/2010-6/30/2010)

Project Title: Role of mutation rate variation in patterns of molecular evolution in *Drosophila*

Investigator(s): Singh, N.D., A. G. Clark, and C. F. Aquadro

Objectives: To use polymorphism patterns at unconstrained transposable elements throughout the genome to infer neutral mutational patterns.

Sponsor: National Institutes of Health (NRSA Postdoctoral Fellowship F32GM080944)
Funding: \$147,750 (3 years; 7/1/2007-6/30/2010)

HONORS AND AWARDS

NIH Ruth L. Kirschstein National Research Service Award (2007)

Center for Evolutionary Studies (CES) Research Fellowship (2003, 2004, 2005)

Department of Biological Sciences Excellence in Teaching Award (2002)

Stanford University Centennial Teaching Award (2005)

Trainee on Stanford Genome Training Grant (funded by 5 T32 HG00044 from NHGRI)
(2003, 2004, 2005)

Harvard College Research Program Grant (1999)

Dean's List, Harvard University (1997-9)

PROFESSIONAL SERVICE

Editorial and Review Service

Associate Editor, *Evolution* (2021-present)

Preprint Editor, *PLOS Genetics* (2016-2023)

Associate Editor, *Molecular Biology and Evolution* (2015-2020)

Academic Editor, *PLoS One* (2011-2014)

Guest Associate Editor, *PLoS Genetics* (6X, 2012-2021)

Ad hoc peer reviewer for primary journals (120 total): *American Naturalist* (2017), *BMC Evolutionary Biology* (3X, 2009-2015), *BMC Genomics* (2X, 2008-2013), *Current Biology* (2X, 2014-2018), *eLife* (2020), *Environmental Entomology* (2015), *European Journal of Entomology* (2014), *Evolution* (6X, 2009-2018), *Genes, Genomes, Genetics* (6X, 2012-2020), *Genome Biology and Evolution* (9X, 2010-2020), *Gene* (2X, 2007-2009), *Genetica* (2009), *Genetics* (23X, 2007-2020), *Genome Biology* (2020), *Genome Research* (3X, 2008-2021), *Heredity* (4X, 2008-2020), *Journal of Heredity* (2017), *Journal of Insect Science* (2016), *Journal of Molecular Evolution* (4X, 2006-2009), *Nature Genetics* (2017), *Nature Reviews Genetics* (2020), *Molecular Biology and Evolution* (18X, 2005-2021), *Molecular Ecology* (3X, 2008-2021), *Philosophical Transactions of the Royal Society B: Biological Sciences* (2016), *PLoS Biology* (2X, 2008-2018), *PLoS Genetics* (12X, 2008-2019), *PLoS One* (3X, 2011-2016), *Proceedings of the National Academy of Sciences* (3X, 2006-2018), *Proceedings of the Royal Society Series B* (2X, 2011-2021), *Science* (2016) *Scientific Reports* (2X, 2015-2018)

Reviewer, National Institutes of Health Genetic Variation and Evolution Study Section (2X, 2016-2018)

Reviewer, Howard Hughes Medical Institute Freeman Hrabowski Scholars Program (2022)

Reviewer, National Science Foundation BIO-LEAPS Panel (2022)

Reviewer, National Science Foundation CAREER Panel (2021)

Reviewer, National Science Foundation Evolutionary Genetics Panel (4X, 2011-2016)

Reviewer, National Science Foundation Genetic Mechanisms Panel (2020)

Reviewer, National Science Foundation Graduate Research Fellowship Proposal (2019)

Ad hoc peer reviewer for grants: National Science Foundation (8X, 2010-2021), Austrian Science Fund (2015), Israel Science Foundation (2X, 2016-2020), US-Israel Binational Science Foundation (2X, 2017-2018), Wellcome Trust DBT India Alliance Fellowship (2021)

Ph.D. Defense opponent, Uppsala University (Jonas Berglund, major advisor Matthew Webster; 2014)

Ph.D. Defense opponent, Norwegian University of Life Sciences (Catherine Brekke, major advisor Peer Berg; 2022)

Conference and Society Service

Organizer, Annual Drosophila Research Conference (2021 meeting)

Representative on Drosophila Board (Western States; 2020-2023)

Member, Genetics Society of America Committee on Equity and Inclusion (2019-2022)

Secretary, Society for Molecular Biology and Evolution (2019-present)

Council Member, American Genetic Association (2017-2020)

Session Chair, Diversity, Equity and Inclusion, The Allied Genetics Conference (2020)

Session Chair, Evolution and Population Genetics, Annual Drosophila Research Conference 2018

Organizer, Workshop on 'Navigating the transition to being a PI,' Annual Drosophila Research Conference 2018

Session Chair, Population, Evolutionary and Quantitative Genetics Conference 2018

Organizer, Workshop "A Community-oriented approach to build and support women in science," Population, Evolutionary and Quantitative Genetics Conference 2018

Selection Committee, Society for Molecular Biology and Evolution Walter M. Fitch award (2016)

Selection Committee, Genetics Society of America DeLill Nasser Award (2013-2016)

Selection Committee, Society for the Study of Evolution Hamilton Award (2014)

Poster judge, Annual Biomedical Research Conference for Minority Students (2017, 2018)

Poster judge, Annual Drosophila Research Conference (2014)

Faculty Mentor, Society for Molecular Biology and Evolution Undergraduate Travel Award (2014)

Poster judge, Annual meeting of the Society for Molecular Biology and Evolution (2012)

University Service

Member, Campus Climate Survey Steering Committee (2022)

Member, Provost's Academic Diversity Initiative Steering Committee (2021)

Panelist, UO New Faculty Success Program on "Moving through resistance and successful grant writing and fellowships" (Winter 2021)

Panelist, Health Professions Applying to Graduate School: deep dive series (Fall 2020)

Reviewer, OVPRI Research Recovery PI Plans (Spring 2020)

Member, President's Diversity Advisory Community Council (2020)

Panelist, UO New Faculty Success Program on "Your strategic plan, service expectations, and choosing venues for your work" (Winter 2020)

Reviewer, Keck Proposals (Winter 2020)

Chair, G3CF FAC (2018-2020)

Panelist, Center for Multicultural and Academic Excellent New Student Fall Retreat (Fall 2019)

Panelist, TRIO student support services Orientation (Fall 2019, Fall 2020, Fall 2021)

Panelist, UO Graduate School Panel on Succeeding in your first year of graduate school (Fall 2019)

Mentor, CAS-sponsored mentoring groups for female faculty (2019)
Member, Committee on Sexual and Gender-Based Violence (2017-2020)
Chair, CAS Natural Sciences Diversity Leadership Committee (2018-2019)
Participant, Knight Campus Strategic Planning Workshop (2018)
Reviewer, OHSU-UO Collaborative Seed Grants (2018)
Reviewer, UO Women in Graduate Science Awards (2018)
Member, GTFF faculty workgroup (2018)
Faculty Mentor, Initiative for Maximizing Student Diversity (2012-2017)
Member, Program in Genetics Executive Committee (2014-2016)
Chair, Program in Genetics Activities Committee (2014)

Departmental Service

Peer teaching evaluation (6X, 2018-2021)
Member, Genetics Training Grant Executive Committee (2018-present)
Member, Department of Biology Undergraduate Research Committee (2017-2018)
Chair, Department of Biology Diversity Committee (2017-2019)
Co-Chair, Department of Genetics Retreat Planning committee (2011-2013)

Institute of Ecology and Evolution Service

Member, Space committee (2021-present)
Member, Director Advisory committee (2018-present)

Search Committees

Search Committee, Dean of the College of Arts and Sciences (2021-present)
Search Committee, Director of Center for Biomedical Data Science (2021-present)
Search Committee Chair, Director of Animal Welfare Services (2021-2022)
Search Committee, Vice Provost for Graduate Education (2021)
Search Committee, Research Development Officer (2018-2019)
UO Chair, OHSU-UO Biomedical Data Science Center Director Search (2019-2020)
Faculty Search Committee, Assistant Professor of Genomics and Bioinformatics (2017-2018)
Faculty Search Committee, Assistant/Associate Professor of Neuroscience (2015-2016)
Faculty Search Committee, Assistant Professor of DNA Forensics (2012-2014)
Faculty Search Committee, Assistant Professor of Mouse Genetics (2011-2012)
Faculty Search Committee, Assistant Professor of Genetics (2010-2011)

Graduate Thesis Committees

In progress

Shola Aleru (Ph. D., Biology; Major advisor: Matthew Barber)
Rose Al-Saadi (Ph. D., Biology; Major advisor: Patrick Phillips)
Zac Bush (Ph.D., Biology; Major advisor: Diana Libuda)
Killian Campbell (Ph.D., Biology; Major advisor Matthew Barber)
Hope Healey (Ph.D., Biology; Major advisor: Bill Creskp)
Nicole Nakata (Ph. D., Biology; Major advisor: Richard Emlet)
Caitlin Smith (Ph.D., Biology; Major advisor: Brendan Bohannan)

Completed

Erik Toraason (Ph.D., Biology; Major advisor: Diana Libuda)
Xiang Ji (Ph.D., Bioinformatics; 2017; Major advisor: Jeff Thorne)
Katherine Swoboda (Ph.D., Entomology; 2017; Major advisor: Hannah Burrack)
Sarah Cash (Ph.D., Genetics; 2016; Major advisor: Fred Gould)
Carlee Hemphill (M.S., Functional Genomics; 2015; Major advisor: David Aylor)

Lauren Dembeck (Ph.D., Genetics; 2015; Major advisor: Trudy Mackay)
Megan Supple (Ph.D., Biomathematics, 2014; Major advisor: Owen McMillan)
Steven Vensko (Ph.D., Genetics; 2015; Major advisor: Eric Stone)
Xin Wang (Ph.D., Bioinformatics, 2013; Major advisor: Jung-Ying Tzeng)

Graduate Student Representative

Lucky Mehra (Ph.D., Plant Pathology, 2015; Major advisor: Christina Cowger)
Kathleen Burchhardt (Ph.D., Plant Pathology, 2014; Major advisor: Marc Cubeta)

PROFESSIONAL AFFILIATIONS

Genetics Society of America (2008-present)
Society for Molecular Biology and Evolution (2004-6, 2008-present)
Bioinformatics Research Center, North Carolina State University (2015-2017)
W. M. Keck Center for Behavioral Biology, North Carolina State University (2010-2017)

TEACHING EXPERIENCE

University of Oregon

Application for Graduate Study Spring 2020, Spring 2021
Population Genetics (BI610). Winter 2019, 2020, 2021, 2023
Population Genetics (BI486/586). Spring 2018
SCORE (Students of Color Opportunities for Research Enrichment, BI407 and BI 408). Fall, Winter and Spring 2018-2019, 2019-2020, 2020-2021, 2021-2022, 2022-2023

North Carolina State University

Population and Quantitative Genetics (GN703). Co-instructor with Dr. Dahlia Nielsen. Spring 2012-2017
Application for Graduate Study (GN490). Spring 2014, 2015
Guest Lecture, Population and Quantitative Genetics (GN703). Spring 2011

Other Universities

Summer Institute in Statistical Genetics, University of Washington. Fundamentals of Population Genetics Module. Co-Instructor with Dahlia Nielsen. Summer 2021, 2022
Summer Institute in Statistical Genetics, University of Washington. Conservation Genetics Module. Co-Instructor with Dahlia Nielsen. Summer 2018, 2019, 2020
Workshop in Bioinformatics and Computational Biology, Fayetteville State University. Instructor. Spring 2016.
Workshop in Quantitative Evolutionary Biology. Mathematics Village, Turkey. Instructor. Summer 2014.
Fundamentals of Molecular Evolution (Bio113). Stanford University. Teaching assistant. Spring 2003.
Introduction to Ecology (Bio101). Stanford University. Teaching assistant. Fall 2002.
Physiology, Plant Biology, Ecology and Evolution (Bio43). Stanford University. Teaching assistant. Spring 2002.
Organismic and Evolutionary Biology (BS2). Harvard University. Course assistant. Fall 1997.

INVITED RESEARCH PRESENTATIONS

2022

University of Toronto, Davis, Ecology and Evolution Seminar Series, December 15

2021

University of California, Davis, Genetics Seminar Series, April 19
University of Iowa, Special Topics in Genetics, April 6
SciLifeLab, The Svedberg Seminar Series, March 22
University of British Columbia, Biodiversity Seminar Series, March 10
Reed College, Biology Department, February 5

2019

University of North Carolina, Chapel Hill, Integrative Program for Biological & Genome Science, August 13
American Genetic Association President's Symposium on 'Sex and asex: The Genetics of complex life cycles,' June 4
University of Kansas, Department of Molecular Biosciences, May 6

2018

University of New Mexico, Center for Evolutionary and Theoretical Immunology, November 30
University of California, Santa Cruz, Department of Molecular, Cellular and Developmental Biology, October 8
University of Oregon, Genetics Training Grant Seminar, May 8
Oregon State University, Department of Integrative Biology, March 12

2016

Texas A&M University, Genetics and Genomics Seminar Series, September 26
META Center for Systems Biology Symposium, August 6
University of Rochester, Department of Biology, May 5
Cornell University, Department of Molecular Biology and Genetics, May 3
University of Florida, Department of Biology, April 7
University of Arizona, Department of Ecology and Evolution, March 24
University of Oregon, Department of Biology, January 21

2015

Duke University, PopGroup Seminar Series, December 3
Vienna Graduate School of Population Genetics, November 3
Duke University, Drosophila Seminar Series, September 10
Drosophila Research Conference, Workshop on 'Homologous Recombination: Mechanisms and Metrics.' March 7.
Drosophila Research Conference, Plenary Session for Undergraduates. March 5

2014

Uppsala University, Evolutionary Biology Center, November 21
Meiosis Gordon Research Conference, June 5
University of California, Los Angeles, Bioinformatics Seminar Series, May 19
University of Rochester, Department of Biology, April 7

2013

Ecole Polytechnique Federale de Lausanne, Systems and Computational Biology Group, November 25
University of North Carolina, Greensboro, Department of Biology, November 20
Brown University, Department of Molecular Biology, Cellular Biology, and Biochemistry, October 30

2012

American Genetics Association Symposium on 'Recombination: Molecular mechanisms and evolutionary consequences,' July 15
Wayne State University, Department of Biology. April 23.
Brown University, Department of Ecology and Evolutionary Biology. April 20.
North Carolina State University, Department of Biology. April 12.

2011

University of North Carolina, Chapel Hill, Department of Genetics. April 27.

2010

Duke University, Department of Biology. November 11.
University of Michigan, Department of Biology. February 18.
University of Massachusetts, Boston, Department of Biology. February 10.
University of Pennsylvania, Department of Biology. January 21.
University of Pittsburgh, Department of Biological Sciences. January 11.

2009

Rutgers University, Department of Genetics. December 9.
Society for Molecular Biology and Evolution annual meeting, Symposium on 'The X factor: analyses of sex-specific demography using the X chromosome.' June 8.
North Carolina State University, Department of Genetics. March 26.
University of Washington, Department of Genome Sciences. March 12.
Drosophila Research Conference, Workshop on 'Evolution and causes of codon usage in the genus *Drosophila*.' March 6.
University of Notre Dame, Department of Biology. February 20.
University of Arizona, Department of Ecology and Evolutionary Biology. February 9.
University of North Carolina, Charlotte, Department of Bioinformatics and Genomics. February 5.
University of Southern California, Department of Biological Sciences. January 30.
University of California, Santa Barbara, Department of Ecology, Evolution, and Marine Biology. January 12.
University of Massachusetts Medical School, Program in Bioinformatics and Integrative Biology. January 5.

2008

University of California, San Diego, Division of Biological Sciences. December 11.
Colgate University, Department of Biology Capstone Seminar. February 8.

SUBMITTED RESEARCH PRESENTATIONS (* denotes presenting author; ‡ denotes undergraduate author)

Mostoufi, S.*, A. and N. D. Singh. 2022. Wolbachia infections alters transposable element activity in *Drosophila melanogaster*. Poster presentation at the annual Drosophila Research Conference.
Mostoufi, S.*, A. and N. D. Singh. 2021. Diet-induced changes in titer support a threshold effect of Wolbachia-associated plastic recombination. Poster presentation at the annual Drosophila Research Conference.
Winbush*, A. and N. D. Singh. 2021. Genomics of recombination variation in temperature-evolved *Drosophila melanogaster* populations. Poster presentation at the annual Drosophila Research Conference.
Hunter, C. M. and N. D. Singh*. 2015. The Genetic architecture of recombination rate variation in *Drosophila melanogaster*. Oral presentation at the annual meeting of the European Society

- for Evolutionary Biology.
- Hunter, C. M.* and N. D. Singh. 2015. Rates of recombination gradually increase over time in *Drosophila melanogaster* females. Poster presentation at the annual Drosophila Research Conference.
- Hunter, C. M.* and N. D. Singh. 2014. The Genetic architecture of recombination rate variation in *Drosophila melanogaster*. Poster presentation at the annual meeting of the Society for the Study of Evolution.
- Criscoe, D.‡, E. S. Keebaugh, S. Skolfield‡, T. A. Schlenke and N. D. Singh*. 2014. Pathogen pressures increase meiotic recombination rate in *Drosophila*. Oral presentation at the annual meeting of the Society for Molecular Biology and Evolution.
- Hunter, C. M.* and N. D. Singh. 2014. The Genetic architecture of recombination rate variation in *Drosophila melanogaster*. Poster presentation at the annual meeting of the Society for Molecular Biology and Evolution.
- Criscoe, D.*‡, E. S. Keebaugh, S. Skolfield‡, T. A. Schlenke and N. D. Singh. 2014. Pathogen pressures increase the rate of meiotic recombination in *Drosophila*. Poster presentation at the annual Drosophila Research Conference.
- Hunter, C. M.* and N. D. Singh. 2013. Do males matter? Exploring male-mediated effects on female meiotic recombination. Poster presentation at the annual Drosophila Research Conference.
- Adrion, J. R.*‡, N. M. Haddad, H. J. Burrack, and N. D. Singh. 2012. Genetic population structure of the emergent invasive fruit pest, *Drosophila suzukii*. Poster presentation at the annual Drosophila Research Conference.
- Robinson, M.*, E. A. Stone, and N. D. Singh. 2012. No evidence of GC-biased gene conversion in *Drosophila melanogaster*. Poster presentation at the annual Drosophila Research Conference.
- Singh, N. D.*, E. A. Stone, C. F. Aquadro and A. G. Clark. 2010. Ultra-fine scale recombination heterogeneity in *D. melanogaster*. Oral presentation at the annual Drosophila Research Conference.
- Bauer Dumont, V. L.*, N. D. Singh, M. H. Wright and C. F. Aquadro. 2009. Genome-wide comparisons of base composition evolution between synonymous and intron sites identifies loci with divergent selective pressures. Oral presentation at the annual meeting of the Society for Molecular Biology and Evolution.
- Singh, N. D.*, C. F. Aquadro and A. G. Clark. 2008. Fine-scale recombination rate estimation in *Drosophila melanogaster*. Poster presentation at the annual meeting of the Society for Molecular Biology and Evolution.
- Singh, N. D.*, C. F. Aquadro and A. G. Clark. 2008. Fine-scale recombination rate estimation in *Drosophila melanogaster*. Poster presentation at the annual Drosophila Research Conference.
- Singh, N. D.*, P. F. Arndt, A. G. Clark and C. F. Aquadro. 2007. Inter- and intra-specific heterogeneities in substitutional patterns in *Drosophila*. Poster presentation at the annual meeting of the Society for Molecular Biology and Evolution.
- Singh, N. D.*, J. C. Davis, and D. A. Petrov. 2005. X-linked genes evolve higher codon bias in *Drosophila* and *Caenorhabditis*. Oral presentation at the annual meeting of the Society for Molecular Biology and Evolution.
- Singh, N. D.*, P. F. Arndt, and D. A. Petrov. 2004. Genomic heterogeneity in background substitutional patterns in *Drosophila*. Oral presentation at the annual meeting of the Society for Molecular Biology and Evolution.
- Singh, N. D.* and D. A. Petrov. 2003. Dramatic sequence turnover at an unconstrained fourth chromosome locus in *Drosophila*. Oral presentation at the annual Evolution meeting.
- Singh, N. D.* and D. A. Petrov. 2003. Dramatic sequence turnover at an unconstrained fourth chromosome locus in *Drosophila*. Oral presentation at the annual meeting of the Society for Molecular Biology and Evolution.

PROFESSIONAL DEVELOPMENT

Provost's Teaching Academy (2018-present)
CIMER mentor training (2017, 2019, 2021)
Culturally-responsive mentorship workshop (2021)
Trauma-informed Leadership Workshop Series (2021)
Ally training (S*Marts Consulting) (2021)
University of Southern California 'Equity Now' workshop series (Fall 2020)
AAU-funded two-day forum to improve outcomes for STEM majors, September 2019
CAS-sponsored Rehearsals for Life workshop on graduate student climate, February 2019
UO Leadership Academy, 2018-2019
Mobile Summer Institute on Scientific Teaching, September 2018
Alan Alda Center for Communicating Science Workshop, Winter 2018

OUTREACH AND ENGAGEMENT

Academic Minute (<https://academicminute.org/2021/04/nadia-singh-university-of-oregon-how-organisms-cope-with-environment-change/>)
Seminar, UO Undergraduate Women in STEM (Winter 2020, Winter 2021)
Panel on Graduate School, SPUR students, July 2020
Seminar, North Star Students, October 2019
Presentation, UO STEM night at OMSI, October 2019
Quack Chat, Downtown Athletic Club, September 2019
Seminar, SPUR students, July 2019, July 2018
Story Collider (April, May 2017); Available as podcast from <https://www.storycollider.org/stories/2017/9/1/metamorphosis-stories-about-radical-change>

LAB MEMBERS AND ALUMNI

Graduate students

In progress

Sabrina Mostoufi (Ph.D. Biology 2019-present)
LyAndra Lujan (Ph.D. Biology 2021-present)

Completed

Sophia Frantz (M.S., Biology 2019-2020)
Chad Hunter (Ph.D. Genetics, 2011-2016)
Matthew Robinson (M.S., Genetics, 2010-2014)

Postdoctoral associates

Completed

Amanda Bonner (2019-2022; currently employed with Nectagen, Inc.)
Victoria Cattani (2016-2017; currently employed with Eva Garland Consulting)
Bethany Dumont (2013-2016; currently Assistant Professor at The Jackson Laboratory)
Kathryn Kohl (2013-2014; currently Associate Professor at Winthrop University)
Heather Hines (co-sponsor 2010-2012; currently Associate Professor at Pennsylvania State University)

Research professionals

Audra McClure (2020-2021)
Ari Winbush (2018-2021)
Annette Estevez (2018-present)
Tahmineh Esfandani (2019-2020)
Joshua Coleman (2018-2019)
Stephanie Ruzsa (2010-2017)

Postbaccalaureate scholars

Lukas MacMillen (2021-2022)

Undergraduates

Lukas MacMillen (2019-2021)

Elizabeth Jurado (Summer 2019)

Dana Truempy (2014-2016)

Amy Kelly (2014-2015)

Kaitlyn O'Shea (2013-2015)

Goran Cetkovic (2014)

Savannah Jackson (2013-2014)

Haylee McLean (2013-2014)

Stephen Gilene (2013-2014)

Dallas Criscoe (2012-2014)

Jeffrey Adrion (2011-2012)

Dhriti Nayyar (2011-2012)

High School Students

Supriya Sivadanam (Summer 2014)

Karl Widney (2013-2014)