

JOHN NOVEMBRE

Department of Ecology and Evolutionary Biology - University of California, Los Angeles
621 Charles E. Young Dr South Box 951606 Los Angeles, CA 90095-1606
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ACADEMIC POSITIONS

- 2008- **Assistant Professor**, Department of Ecology and Evolutionary Biology
University of California-Los Angeles
- 2008- **Member**, Interdepartmental Program in Bioinformatics
University of California-Los Angeles

EDUCATION

- 2006-2008 **Postdoctoral training**, Department of Human Genetics
University of Chicago, Chicago, IL
- 2006 **PhD**, Integrative Biology, designated emphasis in Computational Biology / Genomics
University of California-Berkeley, Berkeley, CA
- 2000 **BA**, Biochemistry
The Colorado College, Colorado Springs, CO.

HONORS AND FELLOWSHIPS

- 2011 Distinguished Faculty Teaching Award, Dept of Ecology and Evolutionary Biology,
UCLA
- 2009-2012 Searle Scholar
- 2006-2008 National Science Foundation Postdoctoral Fellow in Bioinformatics
- 2005 Japanese Society for the Promotion of Science Summer Fellow
- 2001-2006 Howard Hughes Medical Institute Predoctoral Fellow
- 2001 National Science Foundation Graduate Fellowship (declined)
- 2000 J. Juan Reid Award for extracurricular and scholastic achievement, American Institute of
Chemists Award in Biochemistry, Phi Beta Kappa
- 1999 Rhodes Scholar Finalist, Outstanding Research Presentation at the West Coast Biological
Sciences Undergraduate Research Conference, Alberts Summer Research Prize
- 1998 Stanford University Summer Research Fellowship (lab of R. Baldwin)
- 1996-2000 Boettcher Scholar (merit-based full-expense fellowship for Colorado residents to attend
Colorado schools)

PUBLICATIONS

(*Both authors contributed equally)

Peer-reviewed Research Papers

1. **Novembre J.** (2002) Accounting for background nucleotide composition when measuring codon usage bias. *Molecular Biology and Evolution* 19(8):1390-1394.
2. Excoffier L, **Novembre J**, Schneider, S. (2000) SIMCOAL: a general coalescent program for simulation of molecular data in interconnected populations with arbitrary demography. *Journal of Heredity* 91:506-509.
3. Herbeck J, **Novembre J.** (2003) Codon usage patterns in cytochrome oxidase I across multiple insect orders. *Journal of Molecular Evolution* 56(6):691-701.

PUBLICATIONS (CONTINUED)

4. Anderson EC, **Novembre J.** (2003) Finding haplotype block boundaries using the minimum description length principle. *American Journal of Human Genetics* 73(2):336-354.
5. **Novembre J,** Galvani, AP, Slatkin, M. (2005) The geographic spread of the CCR5-Delta32 HIV-resistance mutation. *PLOS Biology* 3(11):e397.
6. Rosenblum EB*, **Novembre J*** (2007) Ascertainment bias in spatially structured populations: A case study in the Eastern Fence Lizard. *Journal of Heredity* 98(4):331-336.
7. **Novembre J,** Stephens M. (2008) Interpreting principal components analyses of spatial population genetic variation. *Nature Genetics* 40:646-649 [recommended by Faculty of 1000].
8. Reiner AP, Barber MJ, Guan Y, Ridker PM, Lange LA, Chasman DI, Walston JD, Cooper GM, Jenny NS, Rieder MJ, Durda JP, Smith JD, **Novembre J,** Tracy RP, Rotter JI, Stephens M, Nickerson DA, Krauss RM. (2008) Polymorphisms of the HNF1A Gene Encoding Hepatocyte Nuclear Factor-1alpha are Associated with C-Reactive Protein. *American Journal of Human Genetics* 82:1193-1201.
9. Nelson MR, Bryc K, King KS, Indap A, Boyko AR, **Novembre J,** Maruyama Y, Waterworth DM, Waeber G, Vollenweider P, Oskenberg JR, Hauser SL, Stirnadel H, Kooner JS, Chambers JC, Jones B, Mooser V, Bustamante CD, Rosed AD, Burns DK, Ehm MG, Lai EH. (2008) The Population Reference Sample (POPRES): a resource for population, disease, and pharmacological genetics research. *American Journal of Human Genetics* 83:347-358.
10. **Novembre J,** Johnson T, Bryc K, Kutalik Z, Boyko AR, Auton A, Indap A, King KS, Bergman S, Nelson MR, Stephens M, Bustamante CD. (2008) Genes mirror geography within Europe. *Nature* 456: 98-101.
11. Auton A, Bryc K, Boyko AR, Lohmueller KE, **Novembre J,** Reynolds A, Indap A, Wright MH, Degenhardt J, Gutenkunst RN, King KS, Nelson MR, Bustamante, CD. (2009) Global distribution of genomic diversity underscores rich complex history of continental human populations. *Genome Research* 19:795-803
12. Pickrell JK, Coop G, **Novembre J,** Kudaravalli S, Li J, Absher D, Srinivasan B, Barsh GS, Myers RM, Feldman MW, Pritchard JK. (2009) Signals of recent positive selection in a worldwide sample of human populations. *Genome Research* 19:826-837
13. Coop G, Pickrell JK, **Novembre J,** Kudaravalli S, Li J, Absher D, Myers RM, Cavalli-Sforza LL, Feldman MW, Pritchard JK. (2009) The role of geography in human adaptation. *PloS Genetics* 5:e1000500.
14. **Novembre J,** Slatkin M. (2009) Likelihood-based inference in isolation-by-distance models using the spatial distribution of low-frequency alleles. *Evolution* 63:2914-2925.
15. Alexander DH, **Novembre J,** Lange K. (2009) Fast model-based estimation of ancestry in unrelated individuals. *Genome Research* 19:1655-1664.
16. Francois O, Currat M, Ray, N, **Han E,** Excoffier L, **Novembre J.** (2010). Principal component analysis under population genetic models of range expansion and admixture. *Molecular Biology and Evolution* 27:1257-1268.

PUBLICATIONS (CONTINUED)

17. vonHoldt B, Lohmueller K, **Han E**, Pollinger J, Parker HG, Quignon P, Degenhardt JD, Boyko AR, Earl DE, Auton A, Reynolds A, Bryc K, Brisin A, Knowles J, Mosher DS, Spady TC, Elkahoun A, Geffen E, Pilot M, Jdrzejewski W, Greco C, Randi E, Bannasch D, Wilton A, Shearman J, Cargill M, Jones PG, Qian Z, Huang W, Ding Z, Zhang Y, Bustamante CD, Ostrander EA, **Novembre J**, Wayne RK. (2010). Genome-wide SNP and haplotype analyses reveal a rich history underlying dog domestication. *Nature* 464:898-902.
18. Boyko AR, Quignon P, Li L, Schoenebeck JJ, Degenhardt JD, Lohmueller KE, Zhao K, Brisbin A, Parker HG, vonHoldt BM, Cargill M, Auton A, Reynolds A, Elkahoun AG, Castelhamo M, Mosher DS, Sutter NB, Johnson GS, **Novembre J**, Hubisz MJ, Siepel A, Wayne RK, Bustamante CD, Ostrander EA. (2010). A simple genetic architecture underlies morphological variation in dogs. *PLoS Biol* 10:e1000451.
19. **Veeramah KR**, Tönjes A, Kovacs P, Gross A, **Wegmann D**, Geary P, Gasperikova D, Klimes I, Scholz M, **Novembre J**, Stumvoll M. (2011) Genetic variation in the Sorbs of eastern Germany in the context of broader European genetic diversity. *European Journal of Human Genetics* (*in press, available as advanced-online pub.*).
20. Vonholdt BM, Pollinger JP, Earl DA, Knowles JC, Boyko AR, Parker H, Geffen E, Pilot M, Jdrzejewski W, Jdrzejewska B, Sidorovich V, Greco C, Randi E, Musiani M, Kays R, Bustamante CD, Ostrander EA, **Novembre J**, Wayne RK. (2011) Genome-wide perspective on the evolutionary history of enigmatic wolf-like canids. *Genome Research* (*in press, available as advanced-online pub.*).
21. **Wegmann D**, **Kessner D**, **Veeramah KR**, Mathias RA, Nicolae DL, Yanek LR, Sun YV, Torgerson DG, Rafaels N, Mosely T, Becker LC, Ruczinski I, Beaty TH, Kardina SLR, Meyers D, Barnes KC, Becker DM, Freimer N, **Novembre J**. (2011). Recombination rates in admixed individuals revealed by ancestry-based inference. *Nature Genetics* (*in press, available as advanced-online pub.*).
22. Gross A, Tönjes A, Kovacs P, **Veeramah KR**, Ahnert P, Roshyara NR, Gieger C, Rueckert IM, Loeffler M, Stoneking M, Wichmann HE, **Novembre J**, Stumvoll M, Scholz M. (2011). Population-genetic comparison of the Sorbian isolate population in Germany with the German KORA population using genome-wide SNP arrays. *BMC Genetics* (*accepted*).

Review Papers

1. Galvani, AP, **Novembre J**. (2005) The evolutionary history of the CCR5-Delta32 HIV-resistance mutation. *Microbes and Infection* 7:302-309.
2. **Novembre J**, di Rienzo, A. (2009) Spatial patterns of variation due to natural selection in humans. *Nature Reviews Genetics* 10:745-755
3. Royal CD, **Novembre J**, Fullerton SM, Goldstein DB, Long JC, Bamshad MJ, Clark AG. (2010). Inferring Genetic Ancestry: Opportunities, Challenges, and Implications. *American Journal of Human Genetics* 14:661-673.
4. Destro-Bisol G, Jobling MA, Rocha J, **Novembre J**, Richards MB, Mulligan C, Batini C, Manni F. (2010). Molecular anthropology in the genomic era. *J Anthropol Sci* 88:93-112.
5. **Novembre J***, Ramachandran S*. Perspectives on Human Population Structure at the Cusp of the Sequencing Era (2011). *Annual Review of Genomics and Human Genetics* (*in press*).

Miscellaneous

1. Slatkin M, **Novembre J**. (2003) Appendix to paper by Wall and Herbeck. *Journal of Molecular Evolution* 56(6):689-690.

PUBLICATIONS (CONTINUED)

2. **Novembre J***, Pritchard JK, Coop G* (2007) Adaptive drool in the gene pool. *Nature Genetics* 39:1188-1190.
3. **Novembre J**, Stephens M. (2010) Response to Cavalli-Sforza interview [Human Biology 82(3):245-266 (June 2010)]. *Hum Biol.* 82:469-70.

Submitted or in preparation

1. Nelson MR, Ehm MG, **Wegmann D**, St. Jean P, Verzili C, Shen J, Tang Z, Kessner D, Bacanu SA, Fraser D, Warren L, Aponte J, Liu X, Zhang H, Zhang Y, Li J, Li Y, Li L, Woolard P, Topp S, Hall MD, Nangle K, Abecasis G, Wang J, Zöllner S, Cardon LR, **Novembre J**, Whittaker JC, Chissoe SL, Mooser V. Excess of deleterious variants in 202 drug target genes from 14002 people. *Research paper submitted.*
2. **Novembre J**. Human population structure and the adaptive response to pathogen-induced selection pressures. *Review being prepared for Philosophical Transactions of the Royal Society B.*
3. Rubio JP, Topp S, Warren LL, St. Jean PL, Shen J, **Kessner D**, **Novembre J**, Fraser D, Aponte JL, Nangle KL, Cardon LR, Ehm MG, Chissoe SL, Whittaker JC, Nelson MR, Mooser VE. Deep sequencing of the LRRK2 gene in 14,002 individuals to guide the clinical development of LRRK2 inhibitors. *Research paper submitted.*
4. Fuller TL, Bensch S, Müller I, **Novembre J**, Pérez-Tris J, Ricklefs RE, Smith TB, and Waldenström J. Migratory Birds and Disease in a Changing World. *Review paper submitted.*

GRANTS AND FUNDING

- | | |
|--|-----------------------|
| 09-SSP-246 (PI: J Novembre)
Searle Foundation
Methods for Spatial Population Genetics: Ancestry Inference and Population Stratification
Role: Principle Investigator | 07/01/2009-06/30/2012 |
| DBI-0933731 (PI: J Novembre)
NSF
Research Starter Grant: Joint genetic and isotopic assignment methods to empower studies of avian migration
Role: Principle Investigator | 09/01/2009-08/31/2011 |
| EF-1021397 (PI: R Wayne)
NSF
The genomic and ecological context of a major gene under selection in natural populations
Role: Co-PI | 07/01/2010-6/30/2013 |
| EF-0733033 (PI: R Wayne)
NSF / Office of Polar Programs
IPY: Genomic-scale SNP genotyping of the Arctic wolf: ecology and adaptation over space and time
Role: Co-PI | 09/01/2007-8/31/2011 |
| EF-0928690 (PI: Lloyd-Smith)
NSF
Collaborative Proposal: Evolutionary dynamics of invasion and escape in hierarchical systems
Role: Co-PI | 09/01/2009-08/31/2012 |

INVITED PRESENTATIONS

Mathematical Biosciences Institute workshop "Spatial Models of Micro and Macro Systems," April 2012.
School of Public Health, Harvard University, March 2012
Dept of Ecology, Evolution, and Marine Biology, University of California-Santa Barbara, February 2012.
Royal Society Discussion meeting on Human evolution, migration and history revealed by genetics, immunity and infection, June 2011.
Center for Investigation in Biodiversity and Genetic Resources, Portugal, March 2011.
Licenciatura en Ciencias Genómicas, UNAM, Mexico, February 2011.
Center for Computational Science, Tulane University, February 2011.
Department of Basic Sciences, The Commonwealth Medical College, November 2010.
Department of Biological Sciences, University of Idaho, November 2010.
Department of Evolutionary Genetics, Max Planck Institute for Evolutionary Anthropology, Germany, June 2010.
MIGRATE workshop, Max Planck Institute for Ornithology, Germany, June 2010.
Department of Human Genetics, University of Michigan, May 2010.
American Association for Anthropological Genetics symposium at the AAPA meeting. April 2010.
Keynote, "Peopling of Europe" session, 4th Congress on DNA polymorphisms in human populations, Rome, Italy, December 2009.
American Society for Human Genetics Genetic Anthropology at Fine Scales Workshop, October 2009.
Darwin 200 South American Celebration Conference, September 2009.
Gordon Conference on Ecological and Evolutionary Functional Genomics, July 2009.
Institute of Ecology and Evolution, University of Berne, January 2009.
Kavli Institute for Theoretical Physics, December 2008.
Department of Biostatistics, University of Southern California, December 2008.
Department of Ecology and Evolutionary Biology, University of California-Irvine, November 2008
Department of Biological Sciences, Humboldt State University, October 2008.
Department of Molecular and Computational Biology, University of Southern California, September 2008.
Third International Symposium on Conservation Genetics, American Museum of Natural History, September 2007.
Department of Biology, The Colorado College, April 2007.
Department of Human Genetics, University of Michigan, March 2007
Department of Ecology and Evolution, University of California-Los Angeles, November 2005.
Hayama Seminar, Graduate University for Advanced Studies (Sokendai), Japan, August 2005.
Department of Biology, The Colorado College, March 2004.
Facultad de Ciencias, Universidad de la Republica, Uruguay, March 2003.

CONFERENCE PRESENTATIONS

Society for Molecular Biology and Evolution Annual Meeting, 2011.
Society for the Study of Evolution Annual Meeting, 2011.
Biology of Genomes Annual Meeting (poster), 2011.
Advances in Genome Biology and Technology, 2011.
American Society for Human Genetics Annual Meeting (poster), 2010.
American Society for Human Genetics Annual Meeting (poster), 2009.
Society for Molecular Biology and Evolution Annual Meeting, 2008.
American Society for Human Genetics Annual Meeting, 2007.
Society for Molecular Biology and Evolution Annual Meeting, 2007.
Gordon Conference for Quantitative Genetics (poster), 2007.
Symposium on Evolutionary Change in Human-Altered Landscapes (poster), 2007.
Society for Molecular Biology and Evolution Annual Meeting (poster), 2006.
Society for the Study of Evolution Annual Meeting, 2006.
Society for the Study of Evolution Annual Meeting, 2004.

Society for the Study of Evolution Annual Meeting, 2003.
DIMACS/RECOMB Workshop on Computational Methods for SNPs/haplotype inference (poster), 2002.
American Genetics Association Symposium on Molecular Evolutionary Genetics (poster), 2002.
Society for the Study of Evolution Annual Meeting (poster), 2002.
Society for the Study of Evolution Annual Meeting (poster), 2001.
West Coast Biological Sciences Undergraduate Research Conference, 1999.

INTRAMURAL PRESENTATIONS

Department of Human Genetics, UCLA, March 2011
Behavior, Evolution Culture Speaker Series, UCLA, November 2009.
Department of Biomathematics, UCLA, November 2009.
Center for Society and Genetics, Indian Population History panel event, UCLA, November 2009.
DNA and History speaker, UCLA, October 2008.
Center for Society and Genetics Colloquium speaker, UCLA, November 2008.

TEACHING

2011 *Coalescent Theory Module*, European Summer Institute in Statistical Genetics. Co-instructor: P Awadalla.
2011 *Coalscent Theory and Methods short course*. University of Berne. Co-instructors: L Excoffier, M Foll, M Blum
2010-2011 *Two-day Bootcamp on Quantitative Skills for Ecology and Evolution*. Co-instructors: M Alfaro, J Lloyd-Smith. UCLA
2010-2011 Guest lecture, *Environmental Genomics Course*, Mount Desert Island Biological Laboratory
2008-2011 Guest lecture, UCLA courses: *HG210 (3x)*, *HC70A (3x)*, *MCDB 172 (2x)*, *Soc Gen 102 (1x)*, *CS/SysBio M184 (1x)*, *CS/SysBio M185 (2x)*, *Geography Grad Seminar (1x)*
2010-2011 *EEB 135/235: Evolutionary genetics*. UCLA.
2008-2010 *EEB 200A: Evolution*. Co-instructors: M. Alfaro and R. Wayne. UCLA.
2009,2011 *EEB 263: Seminar in Population genetics*. UCLA.
2008 *EEB 200A: Evolution*. Co-instructor: M. Alfaro and R. Wayne. UCLA.
2005 *Topics in Biology: Evolution* Student Instructor for N. Patel, N. Shubin, C. Bergman. Waston School of Biological Sciences, Cold Spring Harbor, NY
2001-2002 *Evolutionary Genetics*. Student Instructor for M. Slatkin. University of California-Berkeley.

STUDENTS AND POSTDOCTORAL FELLOWS

2009- Daniel Wegmann: Postdoctoral fellow
2009- Adam Freedman: Postdoctoral fellow
2009-2010 Krishna Veeramah: Postdoctoral fellow
2010- Diego Vicente Ortega del Vecchyo: PhD Student
2010- Colin Rundel: PhD student (formal faculty advisor: J. de Leeuw, Statistics)
2009- Darren Kessner: PhD Student
2008- Eunjung Han: PhD student (formal faculty advisor: W.G. Cumberland, Biostatistics)

UNIVERSITY SERVICE

- 2011- **Member**, Executive Committee, Bioinformatics PhD IDP program
2010- **Member**, Curriculum committee, EEB Department
2010- **Web site advisor**, EEB Department
2010-2011 **Member**, Graduate awards committee, EEB Department
2009- **Member**, Search Committee for Director, Center for Society and Genetics
2009- **Faculty Fellow**, Center for Society and Genetics, UCLA
2009- **Graduate advisor**, Bioinformatics PhD IDP program
2009-2010 **Member**, EEB Seminar committee
2008- **Organizer**, UCLA EcoEvo Theory Group
2008 **Member**, UCLA Committee to design a core course for Human Biology and Society major
2008 **Member**, UCLA EEB Ad hoc committee on graduate student support packages
2008- **PhD Committee member**: David Alexander (Biomath), Bridget von Holdt (EEB), Jennifer Tom (Biomath), Wen-Yun Yang (Bioinformatics), Rena Schweizer (EEB), Stephanie Steele (EEB), Sergio Nigenda Morales (EEB), Sammi Ali (EEB Masters), Chris Chabot (EEB), Colin Rundel (Statistics)

PROFESSIONAL SERVICE

- 2010- **Associate Editor**, Molecular Biology and Evolution
2010 **Advisor** on genetic ancestry, one-day summit meeting for National Bone Marrow Donor Transplant Program
2009- **Member**, Faculty of 1000, Evolutionary/Comparative Genetics Section
2009 **Guest editor**, PLoS Genetics
2009-2010 **Special Topics Editor**, Molecular Ecology
2008- **Member**, American Society of Human Genetics Task Force on Ancestry Testing
2008 **Organizer**, Symposium on "Theory and Inference in Spatial Population Genetics" at the Society for Molecular Biology and Evolution Meeting
2000- **Reviewer** for: *Nature*, *Science*, *PNAS*, *Nature Genetics*, *American Journal of Human Genetics*, *Annals of Human Genetics*, *Bioinformatics*, *BMC Bioinformatics*, *Conservation Genetics*, *Current Anthropology*, *European Journal of Human Genetics*, *Genetics*, *Genetic Epidemiology*, *Genetical Research*, *Genes and Immunity*, *Genome Research*, *Human Biology*, *Human Heredity*, *ISMB*, *Journal of Molecular Evolution*, *Molecular Biology and Evolution*, *Molecular Ecology*, *PLoS Genetics*, *PLoS One*, *Proceedings of the Royal Society B*, *Statistical Applications in Genetics and Molecular Biology*, *Trends in Genetics*.

COMMUNITY / INTERNATIONAL OUTREACH

- 2011, 2008 Undergrad diversity mentor, Society for Molecular Biology meeting
2008-2011 Interviewed for background on news stories related to population genetics: Discover Magazine, Nature, New Scientist, Cheetah Television
2010 Dog domestication research:
-Covered by world media outlets including: *New York Times*, *Washington Post*, *San Francisco Chronicle*, *Toronto Star*, *Jerusalem Post*, *Reuters UK*, *India*, and *Africa*, *Malaysia Sun*, *Argentina Star*, *The Hindu Business Line*, *People's Daily (China)*, *Voice of America*
-Focus of a comedy skit on Colbert Report
2009 Lecturer in 1st Latin American School of Evolution for graduate students. Montevideo, Uruguay.
2008 "Genes mirror geography in Europe" research
-Covered by world media outlets including: *New York Times*, *International Herald Tribune*, *Spiegel (Germany)*, *La Stampa (Italy)*, *Folha (Brazil)*, *World Journal (China)*, *Malaysia Sun*, *New Kerala (India)*.

- Covered by various science media outlets including: *New Scientist*, *Technology Review*, *Discover Magazine*, *Popular Science*, *Tech Herald*, *Science Daily*
- Covered by science journals: *Nature Reviews Genetics*, *Nature Podcast*, *ScienceNOW*
- Featured in educational animation produced by the American Museum of Natural History and shown in the Hall of Human Origins at the American Museum of Natural History (NYC, NY), the Frank H. McClung Museum (Knoxville, TN), the Great Lakes Science Center (Cleveland, OH), and Science World (Vancouver, BC).
- Video piece for distribution on ABC networks produced by *Science Central News* (<http://www.sciencentral.com/video/2008/09/22/genetic-geography/>)

2008 One-day visit, Uma Ramakrishnan, National Institute of Biological Sciences, Bangalore, India

2006 Summer visitor, Yoko Satta, Sokendai, Hayama, Japan.

2003 Two-week visit, Enrique Lessa, the Universidad de la Republica, Uruguay.

1999 Summer visitor, Laurent Excoffier, University of Geneva, Switzerland.