

Fernando A. Villanea
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CURRENT POSITION

2021-present Assistant Professor – Anthropology at CU Boulder

EDUCATION

2019- 2020 Post-Doctoral Researcher - CCMB, Brown University
2017-2018 Post-Doctoral Researcher - IGEM, Temple University
2016 Ph.D. in Biology, Washington State University
2010 M.A. in Anthropology, Washington State University
2005 B.S. in Biology, Universidad de Costa Rica

PEER-REVIEWED PUBLICATIONS

2022 **Fernando A Villanea** and Kelsey E Witt. Underrepresented Populations at the Archaic Introgression Frontier. *Accepted at Frontiers in Genetics*.

2021 Ahlquist, K., Banuelos, M., Funk, A., Lai, J., Rong, S., Witt, K., & **Fernando A Villanea**. Our tangled family tree: new genomic methods offer insight into the legacy of archaic admixture. *Genome Biology and Evolution*. 13 (7).

2021 **Fernando A. Villanea**, P. Keolu Fox, Emilia-Huerta-Sánchez. ABO blood type variation in archaic humans: haplotype structure in Neanderthals and Denisovans. *Molecular Biology and Evolution*. 38 (8): 3373-3382.

2020 **Fernando A. Villanea**, Kitchen, A., & Kemp, B. M. 2020. Applications of Bayesian Skyline Plots and Approximate Bayesian Computation for Human Demography. *Human Biology*. 91(4)

2019 **Fernando A. Villanea** and Joshua G. Schraiber. Multiple episodes of interbreeding between Neanderthals and modern humans. 2018. *Nature Ecology and Evolution*. 3(1): 39-44

2017 Aram Yardumian, ..., **Fernando A. Villanea**, ..., *et al.* 2017. Genetic diversity in Svaneti and its implications for the human settlement of the Highland Caucasus. *American Journal of Physical Anthropology*. 164 (4): 837-852

2016 **Fernando A. Villanea**, Christine E. Parent, and Brian M. Kemp. 2015. Reviving Galápagos snails: ancient DNA extraction and amplification from shells of probably extinct endemic land snails. *Journal of Molluscan Studies*. 82 (3): 449-456

2015 **Fernando A. Villanea**, Kristin N. Safi and Jeremiah W. Busch. 2015. A General Model of Negative Frequency Dependent Selection Explains Global Patterns of Human ABO Polymorphism. *PLoS One*. 10(5): e0125003

Fernando A. Villanea - C.V.

- 2013 **Fernando A Villanea**, Deborah Bolnick, Cara Monroe and Brian M. Kemp. 2013. Evolution of a specific O allele (O1vG542A) supports unique ancestry of Native Americans. *American Journal of Physical Anthropology*. 151(4): 649–657
- 2012 **Fernando A. Villanea**, George H. Perry, Gustavo Gutierrez-Espeleta and Nathaniel J. Dominy. 2012. ASPM and the evolution of cerebral cortical size in a community of Costa Rican monkeys. *Plos One*. 7(9): e44928
- 2007 George H. Perry, Nathaniel J. Dominy, ..., **Fernando A. Villanea**, ..., *et al.* 2007. Diet and the evolution of human amylase gene copy number variation. *Nature Genetics* 39: 1256 - 1260

PUBLICATIONS IN PREPARATION

- In prep* **Fernando A. Villanea**, Ben Rubin, Joshua G. Schraiber, and Sarah Kocher. Sociality drives diversification rates in sweat bees (Halictidae).
- In prep* Tadeusz H. Wroblewski, Kelsey E. Witt, Seung-been Lee, Ripan S. Malhi, Emilia Huerta-Sanchez, Katrina G. Claw, **Fernando Villanea**. Archaic introgression and variation in pharmacogenes and implications for local adaptation.

OTHER PUBLICATIONS

- 2018 **Villanea, Fernando**. Antigen (antibody) in The International Encyclopedia of Biological Anthropology, Wenda Trevathan (ed). John Wiley and Sons, Inc. ISBN: 978-1-118-58442-2

AWARDS

- 2019 Leakey Foundation Research Grant on Human Origins. (\$9600)
- 2014 Carl H. Elling Endowment. School of Biological Sciences. (\$3000)
- 2013 Robert King Award. School of Biological Sciences. (\$2700)
- 2012 Carl H. Elling Endowment. School of Biological Sciences. (\$1700)
- 2011 Carl H. Elling Endowment. School of Biological Sciences. (\$5700)
- 2011 AAPA Pollitzer Student Travel Award. (\$500)
- 2006 CenTREAD Visiting Graduate Fellowships in Tropical Studies.

PUBLIC LECTURES

- 2018 Pattern of Neanderthal ancestry in modern-day humans indicates multiple pulses of Neanderthal introgression. Population Genetics Seminar. Princeton University.

CONFERENCE PARTICIPATION

National Conferences

- 2021 Finding Your Voice: How to navigate challenges in the workforce while not compromising your pursuit for equity and advocating for diverse communities. **ASHG 2021**. October 12th, 2021. Invited Panelist.

- 2021 Adaptive Introgression of the Denisovan variant of the gene MUC19 in American populations. **90th Annual Meeting of the AAPA**. April 7-28, 2021. Podium presentation
- 2020 ABO blood type variation in archaic humans: haplotype structure in Neanderthals and Denisovans. **89th Annual Meeting of the AAPA (cancelled)**. April 15-18, 2020. Podium presentation
- 2019 Multiple episodes of interbreeding between Neanderthals and modern humans. **88th Annual Meeting of the AAPA**. March 27-30th, 2019. Podium presentation.
- 2018 Neanderthal ancestry in modern-day humans provide clues for the pattern of Neanderthal-human admixture in the past. **SMBE Satellite Meeting** on Modern Methods for the Study of Ancient DNA. April 6-8th, 2018. Podium presentation.
- 2017 Evaluating the robustness of coalescent dating methods from short ancient DNA sequences. Meeting for the **Society for Molecular Biology & Evolution**. July 2-6th, 2017. Poster presentation.
- 2017 Interpreting the Penutian migration through Genetics: Ancient human DNA analysis from Central California. **86th Annual Meeting of the AAPA**. April 19-22nd, 2017. Poster presentation.
- 2014 Testing the limitations of ancient DNA sampling in Bayesian coalescent analysis. **Evo-WIBO**. April 25-27th, 2014. Poster presentation
- 2013 Global patterns of ABO polymorphism suggest strong balancing selection and very low effective population size after the human colonization of America. **82nd Annual Meeting of the AAPA**. April 9-13th, 2013. Podium presentation
- 2011 Sequence variation of O haplotypes in pre-columbian Native Americans and its relevance for Native American evolution. **80th annual meeting of the AAPA**. April 13-16th, 2011. Podium presentation
- 2010 Evolution of the ABO blood group locus in Pre-Columbian Native Americans. **79th annual meeting of the AAPA**. April 14-17th, 2010. Poster presentation
- 2009 *ASPM* and the evolution of neocortex size and intelligence in new world monkeys. **108th Annual Meeting of the AAA**. December 2-6th, 2009. Podium presentation

International Conferences

- 2018 Spectrum of Neandertal introgression across modern day humans indicates multiple episodes of human-Neandertal interbreeding. **SMBE**. July 8-12th, 2018. Poster presentation.
- 2018 Sociality drives diversification rates in sweat bees. **Second Joint Congress on Evolutionary Biology**. August 19-22, 2018. Poster presentation.
- 2014 Testing the limitations of ancient DNA sampling in Bayesian coalescent analysis. **83rd Annual Meeting of the AAPA**. April 9-12th, 2013. Poster presentation
- 2012 Global patterns of ABO polymorphism suggest strong balancing selection and a recent demographic bottleneck in human populations. **First Joint Congress on Evolutionary Biology**. July 6-10, 2012. Podium presentation

PROFESSIONAL MEMBERSHIPS

2008-2020 American Association of Physical Anthropologists
2013-2020 American Association of Anthropological Genetics
2017-2020 Society for Molecular Biology & Evolution
2017-2020 Society for the Study of Evolution

SERVICE

Peer Reviewer for

2022 *NSF, Science, The Leakey Foundation, American Journal of Biological Anthropology, Genome Biology and Evolution, G3.*
Previous *Frontiers in Genetics, Science Advances, PLoS ONE, Molecular Biology and Evolution, eLife, Communications Biology, Human Biology, Evolution, Medicine and Human Health*