

**Obed A. García**  
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Nationality: United States and Guatemala

## Education

Ph.D. University of Michigan, 2020  
Anthropology  
Advisor: Abigail W. Bigham

M.A. University of Michigan, 2015  
Anthropology

B.A. Oberlin College, 2009  
English and Jewish Studies, minor in Religion

## Professional Appointments

2023-present University of California, Santa Cruz  
Postdoctoral Scholar, Ecology and Evolutionary Biology  
Mentor: Omar Cornejo

2020-2023 Stanford University  
Postdoctoral Scholar, Biomedical Data Sciences  
Mentor: Teri Klein (2021-2023)  
Carlos D. Bustamante (2020-2021; left for industry)

## Service and Consortiums

2022-present Ancestry and Diversity Working Group in the NIH ClinGen Consortium

2021-present HLA Expert Panel in the NIH ClinGen Consortium

2021-present Human Pan Genome Reference Consortium

2021-2023 Rheumatologic Autoimmune Disease Clinical Domain Working Group in the NIH ClinGen Consortium

## Publications

*In prep* [submitting June 2024 to American Journal of Human Genetics] **García OA\*** and Moreno Grau S\*, et al., Bustamante CD, Ioannides A. Introgressed segments and COVID susceptibility in an Andorran population. \*co-first authors

*In prep* [submitting March 2024 to Human Biology] **García OA**, Li JZ, Bigham AW. Adaptive Introgression at Immune Response Loci in Mesoamericans.

*In prep* [submitting to Nature in Feb 2024] Sokol J, Blanco-Portillo J, **García OA**, Penjueli M, Liu F, ... Jha AR, Feldman MW, Ioannidis AG. Selection signatures in admixed Pacific genomes.

2023 [submitted to PLOS Genetics Dec 2023] Jorgensen K, **García OA**, et al., Lesnik J, Fan C. Genome survey of 4 Andean potato weevils. De novo genome assembly of four Andean potato weevil species (*Premnotrypes*, *Rhigopsidius*), the primary agricultural pest of the potato in South America. Preprint available now on BioRxiv: <https://doi.org/10.1101/2023.12.13.571405>

2023 Jorgensen K, Song D, Weinstein J, **García OA**, Pearson LN, Inclan M, Rivera-Chira M, Leon-Velarde F, Kiyamu M, Brutsaert TD, Bigham AW, Lee FS. High-Altitude Andean H194R HIF2A Allele is a Hypomorphic Allele. *Molecular Biology and Evolution*, msad162, <https://doi.org/10.1093/molbev/msad162>

2023 **García OA**, Arsalanian K, Whorf D, Thariath S, Moore L, Brutsaert TD, Shriver M, Li JZ, Bigham AW. Natural History of Immune Response Genes in a Mesoamerican Cohort. *Genome Biology and Evolution*, Volume 15, Issue 3, March 2023, evad015, <https://doi.org/10.1093/gbe/evad015>

- 2022 Jorgensen K, **Garcia OA**, Kiyamu M, Lesnik J, Rivera-Chira M, Leon-Velarde F, Brutsaert TD, Bigham AW. Genetic adaptations to potato starch digestion in the Peruvian Andes. *American Journal of Biological Anthropology*, 180(1), 162–172. <https://doi.org/10.1002/ajpa.24656>
- 2022 Wang, T., Antonacci-Fulton, L., Howe, K. **et al.**\* The Human Pangenome Project: a global resource to map genomic diversity. *Nature* 604, 437–446 (2022).  
\*Authorship as part of the Human Pangenome Reference Consortium in supplemental author list
- 2020 Werren EA. **Garcia OA**, Bigham AW. Identifying adaptive alleles in the human genome: from selection mapping to functional validation. *Human Genetics*, 1-36.
- 2016 Thompson, W and **Garcia, O.** The Perils of “Contact”. *Tipiti: Journal of the Society for the Anthropology of Lowland South America*. Vol. 14: Iss. 1, Article 12, 145-146.
- 2014 Bhatt S, Mutharasan P, **Garcia OA**, Jafari N, Legro RS, Dunaif A, Urbaneck M. The inflammatory gene pathway is not a major contributor to PCOS. *Journal of Clinical Endocrinology and Metabolism*. 99:E567-E571.
- 2013 Mutharasan P, Galdones E, Bernabe BP, **Garcia OA**, Jafari N, Shea ND, Woodruff TK, Legro RS, Dunaif A, Urbaneck M. Fine Mapping of the Chromosome 2p16.3 Polycystic Ovary Syndrome Susceptibility Locus in Affected Women of European Ancestry. *Journal of Clinical Endocrinology and Metabolism*. 98: E185-E190.
- 2012 Goodarzi MO, Jones MR, Li X, Chua A, **Garcia OA**, Chen YDI, Krauss RM, Rotter JI, Ankener W, Legro RS, Azziz R, Strauss JF, Dunaif A, Urbaneck M. *Replication of association of DENND1A and THADA variants with polycystic ovary syndrome in European cohorts*. *Journal of Medical Genetics*. 49 (2) : 90-5.

## Grants

### External

- 2022 NIH R01  
*The push and pull of inflammation on HIV susceptibility: impact of host variation in CD101 and AXL*  
National Institute of Allergy and Infectious Diseases  
Award # 5R01AI172479-02  
Role: Senior/Key Personnel  
PI: Jairam Lingappa
- 2018 Doctoral Dissertation Research Improvement Grant (co-PI: \$31,200)  
*Signatures of past selection for identification of pathogen-related loci*  
The National Science Foundation  
Award #1824839  
Role: Co-PI  
PI: Abigail Bigham, Jacinta Beehner
- 2016 Dissertation Fieldwork Grant (\$19,959)  
The Wenner-Gren Foundation  
Award # 9368  
Role: PI

### Internal

- 2020, 2018, 2014 (x2) Rackham Conference Travel Grant  
Rackham Graduate School, University of Michigan
- 2016 Rackham International Research Award (\$8000)  
International Institute, University of Michigan
- 2015 Tinker Foundation Field Research Grants (\$1200)  
Department of Latin American Studies, University of Michigan
- 2014 Rackham Graduate Student Research Grant (\$1500)  
Rackham Graduate School, University of Michigan

## Awards and Fellowships

- 2021 Biomedical Informatics and Data Science Fellow  
National Library of Medicine
- 2020 William S. Pollitzer Student Travel Award (*meeting cancelled*)  
American Association of Physical Anthropology
- 2020 Rackham One-Term Dissertation Fellowship  
Rackham Graduate School, University of Michigan
- 2019 Block Grant Write-Up Fellowship  
Department of Anthropology, University of Michigan
- 2018 Outstanding Graduate Student Instructor Award  
Department of Anthropology, University of Michigan
- 2018 Marshall Weinberg Dissertation Fellowship  
Department of Anthropology, University of Michigan
- 2014 Outstanding Graduate Student Instructor Award,  
Department of Anthropology, University of Michigan
- 2014 Honorable Mention (alternate)  
Ford Fellowship Foundation
- 2013 Honorable Mention  
Ford Fellowship Foundation
- 2012-2017 Rackham Merit Fellowship  
Rackham Graduate School, University of Michigan
- 2012 Finalist for the Lewis Landsberg Research Day  
Feinberg School of Medicine, Northwestern University

### Invited Talks

- 2021 Multiallelic alleles and HLA Evolution. Monthly Invited Speaker for the Human Pan Reference Genome Consortium, October 13, 2021.
- 2021 Signatures of Selection due to Infectious Diseases in Mesoamericans. Biological Anthropology Seminar Series at the University of Washington, February 9, 2021.
- 2019 Evolutionary Anthropology: Using signatures of natural selection to study Dengue November 12, 2019 at the Society of Medical Infectologists of Guatemala's monthly meeting.

### Conference Abstracts

- 2023 Penjueli M, Blanco-Portillo J, Sokol J, Liu F, **Garcia O**, Taparra K, Barberena-Jonas C, Medina-Muñoz SG, Venkataraman G, Moreno-Estrada A, Kirch P, Feldman M, Gignoux C, Wojcik G, Fox K, Jha AR, Ioannidis A. Pacific Islander Founder Populations. The Annual Meeting of The American Society of Human Genetics.
- 2023 Shapira R, Klein CJ, Keseler IM, Cheung G, **Garcia OA**, Fernández-Viña M, Merriman TR, Tin A, Plon SE, Wright MW, Aksentijevich I, Mack SJ, Bridges, Jr. SL, Klein TE, on behalf of the ClinGen Rheumatologic Autoimmune Disease Clinical Domain Working Group. Development of the ClinGen Rheumatologic Autoimmune Disease Clinical Domain Working Group (RAD CDWG) as an exemplar of complex disease curation. The Annual Meeting of The American Society of Human Genetics.
- 2023 Penjueli M, Blanco-Portillo J, Sokol J, **Garcia OA**, Liu F, Barbarena Jonas C, Fox K, Feldman M, Jha A, Ioannidis A. Effect of Admixture and Selection in Hawaiians. The Pacific Symposium on Biocomputing (PSB) 2023 Meeting.

- 2023 **Garcia OA**, Reveille JD, Keseler I, Whirl-Carillo M, Klein C, Shapira R, Wright MW, Bridges SL, Fernandez-Viña M, Mack SJ, Klein TE. Developing an HLA curation framework in ClinGen for complex diseases. The Pacific Symposium on Biocomputing (PSB) 2023 Meeting.
- 2022 Zhu K, Kiyamu M, Elías G, Isherwood K, **Garcia OA**, Lee FS, Rivera-Chira M, Leon-Valerde F, Brutsaert TD, Bigham AW. Genomic features underlying the Andean pattern of high-altitude adaptations. The American Association of Biological Anthropology Meeting.
- 2022 Battista VM, Zhu KT, Garcia OA, Evans K, Inclán M, Kiyamu M, Brutsaert TD, Shriver M, Pearson L, Bigham AW. Genetic Evidence for Heat Adaptation in Mexican Mayans. The American Association of Biological Anthropology Meeting.
- 2021 Jorgensen K, **Garcia OA**, Kiyamu M, Rivera-Chira M, Leon-Valarde F, Brutsaert TD, Bigham AW. Genetic adaptations to potato starch digestion in the Peruvian Andes. The American Association of Physical Anthropology meeting
- 2020 **Garcia OA**, Castillo-Signor L, Capetillo S, Santos EM, Nuñez N, Villatoro V, Bigham AW. Leveraging signatures of selection for susceptibility and resistance to Dengue Infection in a Guatemalan cohort. The American Association of Physical Anthropology meeting in Los Angeles, California.  
*Podium Presentation (meeting cancelled)*
- 2018 **Garcia OA**, Arslanian K, Whorf D, Thariath SA, Shriver M, Bigham AW. Selection mapping to identify Flavivirus response loci in the Americas. The American Association of Physical Anthropology meeting in Austin, Texas.  
*Invited Poster Session*
- 2016 Reynolds A, **Garcia OA**, Mata-Miguez J, Bigham AW, Bolnick DA. Investigating Genome-wide Signals of Natural Selection in Central Mexico. The 66th Annual Meeting of The American Society of Human Genetics, Atlanta, GA.
- 2014 **Garcia OA**, Arslanian K, Whorf D, Shriver M, Moore LG, Brutsaert T, Bigham AW. Positive selection in smallpox associated genes among Mesoamericans; (1982 M). The 64th Annual Meeting of The American Society of Human Genetics, October 20, 2014, San Diego, CA.
- 2014 **Garcia OA**, Arslanian K, Whorf D, Shriver M, Moore LG, Brutsaert T, Bigham AW. Signatures of selection in immune response genes among Native Latin American populations. The American Association of Physical Anthropology meeting in Calgary, Canada.
- 2013 Urbanek M, **Garcia O**, Woodruff T, Legro R, Dunaif A, Mutharasan P. Candidate pathway genetic analysis of PCOS. Endocrine Abstracts 29:P935.
- 2012 **Garcia OA**, Mutharasan P, Legro RS, Dunaif A, Urbanek M. Novel FTO locus associated with polycystic ovary syndrome; (1435 W). 12th International Congress of Human Genetics/61st Annual Meeting of The American Society of Human Genetics, October 12, 2011, Montreal, Canada.
- 2011 Ackerman CM, **Garcia OA**, Legro RS, Dunaif A, Urbanek M. SHBG (TAAAA)n is associated with serum SHBG in a PCOS case-control cohort. Endocrine Reviews 32: P2-66.
- 2011 Mutharasan P, Galdones E, Bernabe BP, **Garcia OA**, Legro RS, Dunaif A, Shea LD, Woodruff TK, Urbanek M. Evidence for Association of chromosome 2p16.3 polycystic ovary syndrome (PCOS) Susceptibility Locus in Affected Women of European Ancestry. Endocrine Reviews 32: P1-301.
- 2011 Mutharasan P, Galdones E, Bernabe BP, **Garcia OA**, Legro RS, Dunaif A, Shea LD, Woodruff TK, Urbanek M. Genes Regulated by Ovarian Rigidity are Associated with PCOS. Endocrine Reviews 32: OR21-1.
- 2009 Chen J, **Garcia O**, Donnelly H, Waterer GW, Wunderink, RG. Tigecycline Increases IL-8 response to gram positive stimuli. American Journal of Respiratory Critical Care Medicine 179:A5957.

### Teaching Experience

- 2019 Instructor of Record  
Anthropology, University of Michigan  
Genetic History of Latin America (Spring 2019: lower level)

2013-2019 Graduate Student Instructor  
Anthropology, University of Michigan  
Molecular Anthropology (Winter 2018/Winter 2019: upper level)  
Nutrition and Evolution (Winter 2015: upper level)  
Genes, Disease, and Culture (Fall 2014: upper level)  
Nature/Culture Now! (Winter 2014: upper level)  
Primate Social Behavior (Fall 2013: upper level, upper-level writing proficiency)

2009-2012 Faculty  
Dorothy Stang Popular Education Adult High School, Chicago  
Mathematics (pre-Algebra, basic Algebra, and Statistics)

### **Research Experience**

2013 Graduate Student Research Assistant (Spring/Summer)  
Anthropology, University of Michigan

2009-2012 Research Technician  
Endocrinology, Northwestern University

2008 Summer Intern  
Pulmonary and Critical Care Medicine, Northwestern University

2008 Winter Intern  
Sleep and Circadian Rhythms, Neurology, Northwestern University

2004 Summer Intern  
Pulmonary and Critical Care Medicine, Northwestern University

### **Consulting Experience**

2023 Genomics Consultant  
Global Health, University of Washington

### **Service to Profession**

Ad-Hoc Reviewer: Science Advances, eLife Journal

2019-present Webmaster and Outreach Committee Officer  
American Association of Anthropological Genetics

2014-2016 Abstract Reviewer for Undergraduate Research Symposium  
American Association of Physical Anthropology

2014-2015 Member and Panelist of Student Committee  
American Association of Physical Anthropology

### **Departmental Service**

2014, 2015, 2019 Judge, Senior Honors Thesis Posters,  
Anthropology, University of Michigan

2018 Panelist  
Anthropology Club, University of Michigan

2015 Panelist, Senior Honors Thesis Session,  
Anthropology, University of Michigan

2012-2013 Organizer, Four Field Grad Talks  
Michigan Anthropology Graduate Association

**Service to Community**

2009-2021 Class Agent  
Oberlin Alumni Fund

2014-2017 Treasurer  
Oberlin Latino Alumni Association

2008-2009 Tutor, Elementary School Mathematics  
America Counts

2005-2006 Tutor, Calculus  
Oberlin College

2003-2004 Tutor, English, Science, and Mathematics  
Bethesda After-School Program

**Other Languages**

Spanish (Native Fluency)

**Professional Memberships**

2014-Present American Association of Anthropological Genetics  
2014-Present American Association of Physical Anthropology  
2011-Present The American Society of Human Genetics