

RESEARCH INTERESTS

Global Health · Data Science · Genome Science · Computational Biology · Community Based Participatory Research

CURRENT POSITION

University of California, San Diego (UCSD)

Assistant Professor

La Jolla, CA

August 2019 - Present

I am currently an assistant professor at UCSD where I am affiliated with the Department of Anthropology, the Global Health Program, the Climate Action Lab, and the Indigenous Futures Lab. My research interests include genome sequencing technology, genome engineering, point-of-care technology development and Indigenizing biomedical research.

EDUCATION

University of Washington

Ph.D. Genome Sciences, School of Medicine (Thesis; Next-generation ABO Genetics & Genomics) 2010-2016

Seattle, WA

National Institutes of Health (NIH)

Post-Baccalaureate Fellowship National Human Genome Research Institute (NHGRI) 2008-2010

Bethesda, MD

University of Maryland

B.A. Biological Anthropology & Archaeology (High Honors)

College Park, MD

2004-2008

PREVIOUS RESEARCH EXPERIENCE

University of California, San Diego (UCSD)

UCSD Chancellor's Postdoctoral Fellow

La Jolla, CA

October 2016 - July 2019

I completed a post-doc in Drs. Alexis Komor and Alysson Muotri's groups at UCSD applying base editing technology to investigate positively selected regions implicated in neurodevelopment. I also regularly lectured in the School of Medicine & Anthropology departments.

University of Washington

Ph.D. Candidate

Seattle, WA

October 2010 - August 2016

I earned a Ph.D. in Genome Sciences at the University of Washington applying next-generation genome sequencing to increase compatibility for blood transfusion therapy and organ transplantation. Committee: Debbie Nickerson (Chair), Evan Eichler (Co-chair), Alex Reiner (graduate student representative), Phil Green, Mike Bamshad, and Jill Johnsen.

The National Institutes of Health (NIH)

Postbaccalaureate Intramural Research Training Award Program (IRTA)

Bethesda, MD

August 2009 - August 2010

Along side Dr. Charles Rotimi I worked as a research fellow in The Center for Research on Genomics and Global Health (CRGGH), through the National Human Genome Research Institute (NHGRI). I assisted in the development of genetic epidemiology models that explored the patterns and determinants of common complex diseases in diverse human populations.

RECENT PEER-REVIEWED PUBLICATIONS

1. Saiba Varma, Kalindi Vora, **Keolu Fox**, Suze Berkhout, and Tarik Benmarhnia. *Why Calls to Diversify Trial Populations Fall Short*. New England Journal of Medicine. (Forthcoming, 2020)
2. **Keolu Fox**. *Lei niho palaoa and digital tools to safeguard against the illicit use of ancient DNA*. Hawaiian Archaeology. (Forthcoming, 2020)
3. Fernando A. Villanea, Emilia Huerta-Sanchez, and **Keolu Fox**. *ABO genetic variation in Neanderthals and Denisovans*. (Forthcoming, 2020)
4. Vicky Cameron, **Keolu Fox**, Maui Hudson, Jacquelyn Taylor, Veronica Barcelona de Mendoza, Yan V. Sun, Alison Cirino, and Gia Mudd-Martin. *Considerations for Cardiovascular Genomics Research with Minority and Indigenous Populations*. Circulation: Genomic and Precision Medicine. (Forthcoming, 2020)
5. **Keolu Fox**. *The "All of Us" Program and Indigenous Peoples*. New England Journal of Medicine. (November, 2020)
6. **Keolu Fox**. *The Illusion of Inclusion — The "All of Us" Research Program and Indigenous Peoples' DNA*. New England Journal of Medicine. (July, 2020)
7. Kelly Blevins, Adele Crane, Christopher Lum, Kanako Furuta, **Keolu Fox**, and Anne Stone. *Evolutionary history of Mycobacterium leprae in the Pacific Islands*. Philosophical Transactions of the Royal Society B. (Accepted, 2020)

8. Krystal Tsosie, Rene Begay, **Keolu Fox**, and Nanibaa Garrison. *Generations of Genomes: Advances in Paleogenomics Technology and Engagement for Indigenous People*. Current Opinion in Genetics and Development. (July, 2020)
9. James Hall, Tatum Simonson, and **Keolu Fox**. *Seq-ing Higher Ground: Functional Investigation of Adaptive Variation Associated with High-Altitude Adaptation*. Frontiers in Genetics. (May, 2020)
10. Maui Hudson, Nanibaa Garrison, Rogena Sterling, Nadine Caron, **Keolu Fox**, Joseph Yracheta, Jane Anderson, Phil Wilcox, and Stephanie Carroll. *Rights, Interests, & Expectations: Indigenous perspectives on unrestricted access to genomic data*. Nature Reviews Genetics. (April, 2020)
11. **Keolu Fox**, Kartik Lakshmi Rallapalli, and Alexis C. Komor. *Rewriting Human History and Empowering Indigenous Communities with Genome Editing Tools*. Genes. (January, 2020)
12. **Keolu Fox** and John Hawks. *Use ancient remains more wisely*. Nature. (August, 2019)
13. Latifa Jackson, Caitlin Kuhlman, Fatimah Jackson, and **Keolu Fox**. *Including Vulnerable Populations in the Assessment of Data From Vulnerable Populations*. Frontiers in Big Data. (June, 2019)
14. **Keolu Fox**. *The Future of Paleogenomics: Whats Left When the Bone-dust Settles?* Society for American Archaeology Record. (June, 2019)
15. Katrina G Claw, Matthew Z Anderson, Rene L Begay, Krystal S Tsosie, **Keolu Fox**, Nanibaa A Garrison, the Summer internship for Indigenous peoples in Genomics (SING) Consortium. *A Framework for Enhancing Ethical Genomic Research with Indigenous Communities*. Nature Communications. (July, 2018)
16. Jessica Bardill, Alyssia Bader, Nanibaa A Garrison, Deborah A Bolnick, Jennifer A Raff, Ripan Malhi RS, and *The SING Consortium. *Advancing the Ethics of Paleogenomics*. Science. ***Keolu Fox** is a member of the SING Consortium (June, 2018)
17. Katrina G Claw KG, Dorthy Lippert, Jessica Bardill, **Keolu Fox**, Joseph M Yracheta, Alyssia Bader, Deborah A Bolnick, Ripan S Malhi RS, Kim Tallbear, and Nanibaa A Garrison. *Chaco Canyon Dig Unearths Ethical Concerns*. Human Biology. (July, 2017)
18. **Keolu Fox**, Jill M Johnsen, Bradley P Coe, Chris D Frazar, Alexander P Reiner, NHLBI Exome Sequencing Project, Minority Health-GRID Network, Evan E Eichler, and Deborah A Nickerson. *Analysis of Exome Sequencing Data Sets Reveals Structural Variation in the Coding Region of ABO in Individuals of African Ancestry*. Transfusion. (August, 2016)
19. Polfus, Linda M, Rajiv K Khajuria, Ursula M Schick, Nathan Pankratz, Raha Pazoki, Jennifer A Brody, **Keolu Fox**, Ming-Huei Chen, et al. 2016. *Whole-Exome Sequencing Identifies Loci Associated with Blood Cell Traits and Reveals a Role for Alternative GFI1B Splice Variants in Human Hematopoiesis*. American Journal of Human Genetics. (June, 2016)
20. Wessel, Jennifer, Audrey Y Chu, Sara M Willems, Shuai Wang, Hanieh Yaghootkar, Jennifer A Brody, **Keolu Fox**, Marco Dauriz. *Low-Frequency and Rare Exome Chip Variants Associate with Fasting Glucose and Type 2 Diabetes Susceptibility*. Nature Communications. (January, 2015)
21. Girirajan, Santhosh, Rebecca L Johnson, Flora Tassone, **Keolu Fox**, Jorune Balciuniene, Neerja Katiyar, Carl Baker, and Evan Eichler. *Global Increases in Both Common and Rare Copy Number Load Associated with Autism*. Human Molecular Genetics. (June, 2013)
22. Johnsen, Jill M, Paul L Auer, Alanna C Morrison, **Keolu Fox**, Shuo Jiao, Peng Wei, Jeffrey Haessler, et al. 2013. *Common and Rare Von Willebrand Factor (VWF) Coding Variants, VWF Levels, and Factor VIII Levels in African Americans: the NHLBI Exome Sequencing Project*. Blood (February, 2013)
23. Auer, Paul L, Jill M Johnsen, Andrew D Johnson, **Keolu Fox**, Benjamin A Logsdon, Leslie A Lange, Michael A Nalls, and Guosheng Zhang. *Imputation of Exome Sequence Variants Into Population- Based Samples and Blood-Cell-Trait-Associated Loci in African Americans: NHLBI GO Exome Sequencing Project*. American Journal of Human Genetics. (August, 2012)

OTHER PUBLICATIONS

1. **Online**; The Nation, 2019: *The Fight for Mauna Kea Is a Fight Against Colonial Science*. **Keolu Fox**.
2. **Online**; New York Times, 2018: *Native People Are Taking Center Stage. Finally*. **Keolu Fox**.
3. **Online**; TED; Ideas Worth Spreading, 2017: *The Treasure Trove of Unique Genomes Hiding In Plain Sight*. **Keolu Fox**.

HONORS & AWARDS

Massachusetts Institute of Technology (MIT) (SOLVE, Indigenous Communities Fellowship, Community Prize)	2020
Massachusetts Institute of Technology (MIT) (SOLVE, Indigenous Communities Fellowship, Finalist)	2020
Emerson Collective (Cancer Research Accelerator Fellowship)	2020
Regents of the University of California (Chancellor's Postdoctoral Fellowship)	2018
National Geographic Emerging Explorer (selected as one of fourteen 'world-changers,' \$10,000.00)	2017
TED fellow (selected among 21 new fellows in 2016, gave a TED talk)	2016
Smithsonian, Next-Generation Native Researcher (awarded to three Indigenous researchers)	2014
Cold Spring Harbor Labs, Advanced Genome Sequencing Technologies (full scholarship, \$4,000.00)	2014

GRANTS AWARDED

Social Science Research Council (Dreaming Indigenous Futures Working Group, \$53,00.00)	2020
American Association for Physical Anthropology (Cobb Professional Development Grant, \$7,500.00)	2018
National Geographic, Center for Exploration Grant (Ancient Leprosy Genome Sequencing, \$20,000.00)	2017
NIH, Institutional Research & Academic Career Development Award (3 years funding)	2017-2020
NIH, R01 Diversity Supplement(NIDDK) (2 years funding)	2017-2019
NIH, Ruth L. Kirschstein Fellowship (NHLBI, F31) (3 years funding)	2013-2015
NIH, Graduate Fellowship (NHGRI) (fully funded Ph.D.)	2010-2015

RECENT ACADEMIC CONFERENCES & SELECT PRESENTATIONS

1. Cornell University, Cornell Institute of Archaeology and Material Studies (CIAMS) and The American Indian and Indigenous Studies Program (AIISP), Invited Seminar speaker, 2020: *Creating accountability in human population genetics using base editing tools*, **Keolu Fox**.
2. The Australian Bioinformatics And Computational Biology Society (ABACBS), Indigenous Genomics Symposium, Invited Seminar speaker, 2020: *Creating accountability in human population genetics using base editing tools*, **Keolu Fox**.
3. Office of Hawaiian Affairs and Papa Ola Lokahi, Invited seminar speaker, 2020: *Creating a Hawaiian Population Specific Human Genome Reference*, **Keolu Fox**.
4. Chan Zuckerberg Initiative (CZI), Human Cell Atlas, Seed Networks 2020 Annual Meeting, Keynote, 2020: *Rewriting Human History and Empowering Indigenous Communities with Genome Editing Tools*, **Keolu Fox**.
5. International Society for Computational Biology (ISCB), Native Voices Series, Invited seminar speaker, 2020: *The Illusion of Inclusion*, **Keolu Fox**.
6. Yale University, Department of Anthropology, Invited seminar speaker, 2020: *Rewriting Human History and Empowering Indigenous Communities with Genome Editing Tools*, **Keolu Fox**.
7. American Anthropological Society, Decolonizing Anthropological Genetics, Invited speaker, 2020: *The Illusion of Inclusion*, **Keolu Fox**.
8. Office of Hawaiian Affairs and Papa Ola Lokahi, Invited seminar speaker, 2020: *Safeguarding Indigenous Genomics*, **Keolu Fox**.
9. University of Hawaii, Native Hawaiian Student Services, Bookshelf Series, Invited seminar speaker, 2020: *Iwi Snatchaz: Protecting Iwi Kūpuna from Digital desecration*, **Keolu Fox**.
10. University of Melbourne, School of Biological Sciences, Invited seminar speaker, 2020: *Rewriting Human History and Empowering Indigenous Communities with Genome Editing Tools*, **Keolu Fox**.
11. Office of Hawaiian Affairs and Papa Ola Lokahi, Invited seminar speaker, 2020: *Hawaiian Genomics 101*, **Keolu Fox**.
12. University of Michigan, Department of Anthropology, Evolution and Human Adaption, Invited seminar speaker, 2020: *Rewriting Human History and Empowering Indigenous Communities with Genome Editing Tools*, **Keolu Fox**.
13. Nia Tero, The Tenure Facility, and Massachusetts Institute of Technology (MIT), Technodigenous, Invited Keynote speaker, 2020: *Inspiring Indigenous Technologies and Future Partnerships*, **Keolu Fox**.
14. University of California, Los Angeles (UCLA), Department of Human Genetics and Bioinformatics, Invited seminar speaker, 2020: *Rewriting Human History and Empowering Indigenous Communities with Genome Editing Tools*, **Keolu Fox**.
15. Massachusetts Institute of Technology (MIT), SOLVE, Indigenous Communities Fellowship Finalist and Keynote speaker, 2020: *Safeguarding Indigenous Genomics*, **Keolu Fox**.
16. American Society of Human Genetics (ASHG), Evolutionary Genomic Medicine Symposium, Invited Seminar speaker, Invited seminar speaker, 2020: *Creating accountability in human population genetics using base editing tools*, **Keolu Fox**.
17. Washington University, School of Medicine, Department of Genetics, Invited Seminar speaker, Invited seminar speaker, 2020: *Rewriting Human History and Empowering Indigenous Communities with Genome Editing Tools*, **Keolu Fox**.
18. Princeton University, Department of Ecology and Evolutionary Biology, John Bonner Lecture, Keynote, 2020: *Rewriting Human History and Empowering Indigenous Communities with Genome Editing Tools*, **Keolu Fox**.
19. CRISPRcon, Invited seminar speaker, 2020: *Indigenous perspectives on gene editing in health and agriculture (in partnership with the Native BioData Consortium)*, **Keolu Fox**.
20. University of Washington, Department of Genome Sciences, Invited seminar speaker, 2020: *Rewriting Human History and Empowering Indigenous Communities with Genome Editing Tools*, **Keolu Fox**.
21. Association for Computing Machinery (ACM), Special Interest Group on Knowledge Discovery and Data Mining (KDD), Annual Conference, Invited seminar speaker, 2020: *The Illusion of Inclusion*, **Keolu Fox**.
22. Climate and Peace Institute, University of Hawaii, Manoa, Invited seminar speaker, 2020: *Collapsed Futures Dream-Tank: Walking Backwards into the Future*, **Keolu Fox**.
23. World Economic Forum, Precision Medicine: Shaping the Future of Health and Healthcare, Invited seminar speaker, 2020: *The Illusion of Inclusion?* **Keolu Fox**.
24. International Business Machines Corporation (IBM), Keynote, 2020: *What if Watson was Indigenous?* **Keolu Fox**.
25. Max Planck Institute for Evolutionary Anthropology, Keynote, 2020: *Partners Not Subjects: Enhancing Ethical Research With Indigenous Communities*. **Keolu Fox**.

26. Arizona State University, Center for Evolution and Medicine, Invited seminar speaker, 2020: *Rewriting Human History and Empowering Indigenous Communities with Genome Editing Tools*, **Keolu Fox**.
27. Nia Tero, Securing Indigenous Guardianship of Vital Ecosystems Annual Retreat, Keynote, Vancouver, BC, 2020: *Partners Not Subjects: Enhancing Ethical Research With Indigenous Communities*. **Keolu Fox**.
28. The Bernice Pauahi Bishop Museum, Pau Hana Seminar Series, Honolulu HI, 2020: *The Paleogenomic Industrial Complex: What's Left When the Bone Dust Settles?*, **Keolu Fox**.
29. Inaugural Summer Internship for Indigenous Genomics (SING) Conference, Waikato, NZ, 2020: *The Paleogenomic Industrial Complex: What's Left When the Bone Dust Settles?*, **Keolu Fox**.
30. Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) National Conference. Honolulu Convention Center, Honolulu HI, 2020: *The Digital Jim Crow*, **Keolu Fox**.
31. University of California, San Diego, Edit, Revise, Rewrite: Genetic Engineering in the 21st Century Symposium, La Jolla, CA, 2020: *Rewriting Human History with Genome Editing Tools*, **Keolu Fox**.
32. 23andMe, Invited seminar speaker, Sunnyvale, CA, 2020: *The Paleogenomic Industrial Complex: What's Left When the Bone Dust Settles?*, **Keolu Fox**.
33. Stanford University, Biomedical Ethics Seminar Series, Palo Alto, CA, 2020: *The Paleogenomic Industrial Complex: What's Left When the Bone Dust Settles?*, **Keolu Fox**.
34. University of California, Berkeley, Innovative Genomics Institute (IGI), Berkeley, CA, 2020: *CRISPR Consensus? Human Germline Editing: What Is at Stake, and Who are the Stakeholders?*, **Keolu Fox**.
35. University of Oklahoma, Genomics and Ethics programs for Native Students, Keynote speaker, Oklahoma City, OK, 2019: *Enhancing Ethical Genomic Research with Indigenous Communities*, **Keolu Fox**.
36. University of Waikato, Maori Data Futures, Waikato, NZ, 2019: *Indigenous Data Sovereignty*, **Keolu Fox**.
37. Pacific Conference of Churches & the Maohi Protestant Church Annual Congress, Keynote speaker, Moorea, FP, 2019: *Health Consequences of Nuclear Testing in French Polynesia*, **Keolu Fox**.
38. National Geographic Orion Expedition, Tahiti to the Marquesas islands, Keynote speaker, Pacific Ocean, 2019: *Ancient Voyaging & Polynesian Origins: A Modern Synthesis*, **Keolu Fox**.
39. National Human Genome Research Institute (NHGRI) Research Training and Career Development Annual Meeting, Keynote speaker, St Louis, MO, 2019: *Enhancing Ethical Genomic Research with Indigenous Communities*, **Keolu Fox**.
40. Annual Meeting of the American Association of Physical Anthropologists (AAPA), Presidential Panel: Interpreting and Communicating Genetic Variation in 2019: A Conversation on Race, Cleveland, OH, 2019: *New Digs: Revisiting Paleoanthropology in the Genome Editing Era*, **Keolu Fox**.
41. Annual Meeting of the American Association of Physical Anthropologists (AAPA), Increasing Diversity in Evolutionary Anthropological Sciences (IDEAS) Workshop, Cleveland, OH, 2019: *The Origins of Leprosy Bacterium in Oceania: A Genomic History*, **Keolu Fox**.
42. University of California Santa Barbara (UCSB), Department of Anthropology, Winter Colloquium Series, Santa Barbara, CA, 2019: *Reverse Engineering Anthropological Genetics*, **Keolu Fox**.
43. Tatai Oranga: Joining forces to tackle metabolic diseases, In partnership with the University of Auckland and the Moko Foundation, Ahipara, NZ, 2019: *Functionally Investigating Polynesian Specific Point Mutations in CREBRF*, **Keolu Fox**.
44. Mexican Population Genetics Conference (MEXPOPGEN), Mexico City, Mexico, 2018: *New Digs: Revisiting Paleoanthropology in the Genome Editing Era*, **Keolu Fox**.
45. Native American Research Center for Health (NARCH), Keynote speaker, University of California, San Diego, La Jolla, CA, 2018: *New Digs: Revisiting Paleoanthropology in the Genome Editing Era*, **Keolu Fox**.
46. The American Society for Human Genetics (ASHG), Session chair, moderator, and speaker, San Diego CA, 2018: *Silent Genomes: Indigenous-led Initiatives on Addressing Equity in Genomics Health Care and Research*, **Keolu Fox**.
47. The Queens Medical Center, Invited speaker, Department of Pathology and Molecular Diagnostics, Honolulu, HI, 2018: *The Origins of Leprosy Bacterium in Oceania: A Genomic History*, **Keolu Fox**.
48. University of Washington, Invited on behalf of the National Geographic Society, Seattle, WA, 2018: *The Origins of Leprosy Bacterium in Oceania: A Genomic History*, **Keolu Fox**.
49. American Association of Physical Anthropologists, 87th annual meeting, Austin, TX, 2018: *Imputation of Ancient Hominid Blood Groups Using Next-generation Sequencing Methods*, **Keolu Fox**.
50. Cheyenne River Sioux Tribe, Invited seminar speaker, Cheyenne River Indian Reservation, Eagle Butte, SD, 2018: *Indigenous Genomics: Walking Backwards Into the Future*, **Keolu Fox**.
51. University of Michigan, Department of Anthropology, Invited seminar speaker, Ann Arbor, MI, 2018: *Indigenous Genomics: We are not makers of history. We are made by history*, **Keolu Fox**.
52. Stanford University, Tinker Symposium on Latin American Research for Biodiversity, Palo Alto, CA, 2018: *Indigenous Genomics: We are not makers of history. We are made by history*, **Keolu Fox**.
53. 23andMe, Invited seminar speaker, Mountain View, CA, 2018: *Indigenous Genomics: We are not makers of history. We are made by history*, **Keolu Fox**.
54. Mexican Population Genetics Conference (MEXPOPGEN), Guanajuato, Mexico, 2018: *Imputation of Ancient Hominid Blood Groups Using Next-generation Sequencing Methods*, **Keolu Fox**.
55. National Geographic Explorers Festival, Washington D.C., 2017: *The Origins of Leprosy Bacterium in Oceania: A Genomic History*, **Keolu Fox**.

56. March For Science, Invited speaker, San Diego, CA, 2017: *Immigrants: Where do you think all of our Nobel Prizes came from?* **Keolu Fox.**
57. University of Otago, Math & Stats seminar series, Dunedin, NZ, 2017: *Next-generation Blood Typing*, **Keolu Fox.**
58. University of Auckland, School of Medicine, Indigenous Perspectives on Genetics, Genomics & Big Data, Auckland, NZ, 2017: *Next-generation Blood Typing*, **Keolu Fox.**
59. Keynote speaker, Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) National Conference, Long Beach, CA, 2016: *Let Your Kuleana Guide Your Science*, **Keolu Fox.**
60. TED2016, Vancouver, BC, 2016: *Why Genetic Research Needs To Be More Diverse*, **Keolu Fox.**
61. National Congress of American Indians (NCAI) 11th Annual Tribal Leader/Scholar Forum, Spokane WA, 2016: *Indigenous Genomics: Enhancing genomic research through an Indigenous perspective*, **Keolu Fox.**
62. The American Society for Human Genetics (ASHG), Baltimore MD, 2015: *Research Partners, Not Subjects: Engaging Indigenous Peoples in Genetics*, **Keolu Fox.**
63. The University of New Mexico, Health disparities division, School of Medicine, Albuquerque NM, 2015: *Indigenomics: Indigenizing genomics technologies*, **Keolu Fox.**
64. Smithsonian Institute, NHGRI, and the National Congress of American Indians. Washington D.C., 2014: *IndiGenomics: Indigenizing Genomics Technology*, **Keolu Fox.**
65. Next Generation ABO Genetics and Genomics, Blood Cell Trait Working Group of the Exome Sequencing Project, National Heart, Lung, and Blood Institute. University of Washington, Seattle WA, May 2012. **Keolu Fox.**
66. Blood Typing Using Human Exome Sequence Data, Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) National Conference (Awarded best oral presentation by a graduate student in genetics). Seattle Convention Center, Seattle WA, October 2012. **Keolu Fox.**
67. Effectively Lobbied the Washington State Legislature To Protect Funding for Science Research, Higher Education budget Committee, Washington State Legislature, Olympia, WA, March 2012. **Keolu Fox**
68. Discovery of Copy Number Variants Associated With Autism Spectrum Disorder In Mexican American Families, Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) National Conference (Awarded best oral presentation by a graduate student in genetics). San Jose Convention Center, San Jose CA, October 2011. **Keolu Fox.**

TEACHING EXPERIENCE

- Instructor of Record:** *ANBI 121: The Original Moonshot: The Voyaging Achievements of the Polynesian Ancestors*, University of California, San Diego and The Scripps Institute of Oceanography. La Jolla, CA (2020)
- Instructor of Record:** *ANBI 238: Community Based Participatory Research*, University of California, San Diego. La Jolla, CA (2020)
- Instructor of Record:** *ANBI 116: Ancient Genomics*, University of California, San Diego. La Jolla, CA (2020)
- Instructor of Record:** *ANBI 118: Technology on the Go: Mobile tools for Human Biology*, University of California, San Diego. La Jolla, CA (2020)
- Instructor of Record:** *Biology 172: Introduction to Molecular Biology II*, University of Hawaii, Manoa. Manoa, HI (2019)
- Guest Lecturer:** *Research Partners, Not Subjects: Engaging Indigenous Peoples in Biomedical Research, Introduction to Global Health*, Global Health Program (Invited by Instructor Ellen Kozelka), University of California, San Diego (UCSD). La Jolla, CA.
- Guest Lecturer:** *The Illusion of Inclusion, Biomedical and Research Ethics*, School of Engineering (Invited by Instructor Jeff Behrens), Massachusetts Institute of Technology (MIT). Cambridge, MI.
- Guest Lecturer:** *Partners Not Subjects: Enhancing Ethical Research with Indigenous Communities, Discovering Archaeology*, Department of Anthropology (Invited by Instructor Isabel Rivera-Colazo), University of California, San Diego. La Jolla, CA.
- Guest Lecturer:** *Rewriting Human History with Genome Editing Tools*, Department of Anthropology The Evolution and Human Adaptation, (Invited by Instructor Vincent Battista), University of Michigan. Ann Arbor, MI.
- Guest Lecturer:** *Rewriting Human History with Genome Editing Tools*, Human Developmental Sciences, (Invited by Instructor Clarissa J. Reese), University of California, San Diego. La Jolla, CA.
- Guest Lecturer:** *Ancient Genomics for Beginners*, Biological Anthropology Methods, Department of Anthropology (Invited by Instructor Katerina Semendeferi), University of California, San Diego. La Jolla, CA.
- Guest Lecturer:** *ABO Blood Group Genetics and Genomics*, Biological Anthropology Methods, Department of Anthropology (Invited by Instructor Katerina Semendeferi), University of California, San Diego. La Jolla, CA.
- Guest Lecturer:** *Aloha Āina: Ahupua'a Systems Engineering Complexity in Ancient Hawai'i*, Climate Crisis Human Solutions, Department of Anthropology (Invited by Instructor Steve Parish), University of California, San Diego. La Jolla, CA.
- Guest Lecturer:** *Partners Not Subjects: Enhancing Ethical Research with Indigenous Communities, Race, Nation, and Violence*, (Invited by Instructor Caroline Collins), UCSD. La Jolla, CA.
- Guest Lecturer:** *Rewriting Human History with Genome Editing Tools*, Muir College Honors Students, (Invited by Instructor Provost Wayne Yang), UCSD. La Jolla, CA.
- Guest Lecturer:** *The Digital Jim Crow*, Eleanor Roosevelt College Honors Students, (Invited by Instructor Provost Ivan Evans), UCSD. La Jolla, CA.

- Guest Lecturer:** *Archaic Genomics*, Human Evolutionary Biology, Department of Anthropology (Invited by Instructor Tatum Simonsen), University of California, San Diego. La Jolla, CA (2020)
- Guest Lecturer:** *Genome Editing For Anthropologists*, Genetic Anthropology Lab Techniques, Department of Anthropology (Invited by Instructor Amy Non), University of California, San Diego. La Jolla, CA (2018)
- Guest Lecturer:** *The Ahupua'a System: Engineering Sustainability*, Feeding the World, Department of Anthropology (Invited by Instructor Jade d'Alpoim Guedes), University of California, San Diego. La Jolla, CA (2018)
- Guest Lecturer:** *Neanderthal Genomics*, Human Evolutionary Biology, Department of Anthropology (Invited by Instructor Amy Non), University of California, San Diego. La Jolla, CA (2018)
- Instructor:** Developed genome editing curriculum, Lectured on *Revisiting the thrifty gene theory in the genome editing era* (20 students and 10 instructors). Summer internship for Indigenous peoples in Genomics (SING). Held at the University of Washington, Seattle, WA (2018)
- Instructor:** Developed bioinformatics curriculum, Lectured on *Publicly available genome editing tools for design and application* (10 students and 2 instructors). Cheyenne River Sioux Tribe. Held on Cheyenne River Indian Reservation, Eagle Butte, SD, (2018)
- Guest Lecturer:** *The Population Genetics of Austronesia*, Human Population Genetics, Department of Anthropology (Invited by Instructor Amy Non), University of California, San Diego. La Jolla, CA (2017)
- Guest Lecturer:** *Indigenous Genomics*, Indigenous Science Seminar, Department of Physics (Invited by Instructor Adam Burgasser), University of California, San Diego. La Jolla, CA (2018)
- Instructor:** Developed Indigenous Science curriculum, Lectured on *Decolonizing science and technology* and *SING Professionalization module: future directions in genomics* (22 students and 10 instructors). Summer internship for Indigenous peoples in Genomics (SING). Held at the University of Arizona, Tucson, AZ (2017)
- Instructor:** Lectured on *Indigenizing Genomics: Enhancing genomic research through an Indigenous perspective* (15 interns and 10 instructors). Summer Internship for Indigenous peoples in Genomics (SING) Alumni Workshop. Held at the University of Wisconsin, Madison, WI (2016)
- Guest Lecturer:** *Indigenous Genomics*, Frontiers in Genomics course, Department of Biology, University of New Mexico. Albuquerque, NM (2016-2017)
- Instructor:** CSI for Mathematics, Engineering, Science, Achievement (MESA) Saturday Academy program, Monthly instructions, Seattle, WA (2011-2014)

MEMBERSHIP

World Economic Forum (WEF) (Global Futures Council, Member)	<i>2020-Present</i>
Native BioData Consortium (NBDC) (Board Member)	<i>2020-Present</i>
Center for Academic Research and Training in Anthropogeny (CARTA) (Member)	<i>2020-Present</i>
Society of American Archaeology (SAA) (Member)	<i>2019-Present</i>
National Geographic Society (NGS) (Emerging Explorer)	<i>2017-Present</i>
Summer internship for Indigenous peoples in Genomics (SING) Consortium (Member)	<i>2016-Present</i>
Technology Entertainment & Design (TED) (Fellow)	<i>2016-Present</i>
The National Congress of American Indians (NCAI) (Member)	<i>2014-Present</i>
American Society for Human Genetics (ASHG) (Member)	<i>2011-Present</i>
Society for the Advancement of Chicanos and Native Americans in Science (SACNAS)	<i>2011-Present</i>
American Association for Physical Anthropologists (AAPA) (Member)	<i>2011-Present</i>

SERVICE & LEADERSHIP

- Committee Member:** World Economic Forum (WEF), Global Future Councils 2020-2021, Global Future Council on Synthetic Biology (2020)
- Organizer:** East-West Policy Center, Humane Artificial Intelligence: The Challenges of Privacy and Social Cohesion, Organizing Committee (2020)
- Organizer and Guest-curator:** Bernice Pauahi Bishop Museum, (Re)Generations: Challenging Scientific Racism in Hawaii (2020)
- Organizer:** CRISPRCON, Indigenous perspectives on gene editing in health and agriculture, Organizing Committee (2020)
- Organizer:** Nia Tero, Massachusetts Institute of Technology (MIT), and The Tenure facility. Technodigenous, Organizing Committee (2020)
- Organizer:** International Congress for the Governance of AI (ICGAI) and Marginalized Communities, Organizing Committee (2020)
- Organizer:** The Inaugural Summer Internship for Indigenous Genomics (SING) Conference, Waikato, NZ (2020)
- Organizer:** National Geographic Education Summit: Disrupting Colonization in the Spaces We Live and Work, Washington, DC (2019)
- Organizer:** The American Society for Human Genetics (ASHG), Session chair, moderator, and speaker: "Silent Genomes: Indigenous-led Initiatives on Addressing Equity in Genomics Health Care and Research", San Diego, CA (2018)

REVIEWER

New England Journal of Medicine · Science · Cell · Nature · Nature Communications · American Journal of Physical Anthropology · Evolutionary Anthropology · Human Population Genetics and Genomics · Genes · National Geographic Society

CONSULTANT

IBM · Illumina · Chan Zuckerberg Initiative (CZI) · Office of Hawaiian Affairs · Institute for Climate and Peace · Kumeyaay Cultural Repatriation Committee · Bernice Pauahi Bishop Museum · Nia Tero · Variant Bio · 23andMe · Oxford Nanopore

COMPUTER SKILLS

All operating systems (Windows, iOS, Linux) · Programming languages: Python, Perl, MATLAB, R · Software: Rhinoceros 3D (with Python API), PhotoScan (with Python API), Autodesk Inventor, SolidWorks, Illustrator.

RECENT FIELDWORK

The Indigenous Futures Lab (IFL) Field School

Primary Investigator & Field School Director

Mo'orea, French Polynesia

May 2019 - Sept 2019

The IFL Field School is a medical anthropology/global health based field school that utilizes community-based participatory research methods (CBPR) to train student participants to engage Indigenous communities using culturally sustainable methods, and co-develop novel hypothesis related to Indigenous health.

The Origins of Ma'i Pa'ke in Hawai'i Genomics Project

Primary Investigator

Kalaupapa, Moloka'i, HI

June 2018 - July 2018

Along with my field team I conducted ethnographic surveys in both English and Hawaiian on various topics including; The origins of Hansen's disease in Hawai'i, attitudes towards mobile genome technologies, and democratizing emerging technologies.

Mini-Med School; University of Maryland, Eastern shore

August 2006 - January 2009

Eastern Research Assistant

Alongside Dr. Fatimah Jackson, I worked as a phlebotomy assistant collecting blood samples from female African American triple negative breast cancer survivors and transcribing each patients narrative and medical information.

Archeological Field School; University of Maryland

August 2008 - January 2009

Annapolis, MD *Field Archaeologist*

Alongside Dr. Mark P. Leone, I excavated multiple historical archeological sites including; Mount Olive African Methodist Episcopal Church, Parole, Annapolis, Maryland (a civil war prison), and Wye House Plantation, Eastern Shore, Maryland (the plantation where Fredrick Douglass spent his childhood as a slave.)

RECENT TELEVISION, RADIO, & ONLINE PLATFORMS

1. **Radio**; National Public Radio (NPR), 2020: *Short Wave: A Call for Equity In Genomics Research.*
2. **Radio**; KBPS Radio, 2020: *Experts Say One Of Largest Federal Genetics Study In History Could Leave People Of Color Behind.*
3. **Podcast**; Flash Forward, 2020: *Game of Bones.*
4. **Podcast**; Nature Publishing Group, 2019: *Depleting ancient-human genomes.*
5. **Radio**; Science Friday, 2019: *The Planned Thirty Meter Telescope On Mauna Kea Raises Ethical Concerns.*
6. **Radio**; KBPS Radio, Rad Scientist Ep. 14.;, 2019: *Brave New World.*
7. **Radio**; WGBH Radio, Boston, Living Lab Radio, 2018: *Hawaiian Scientist Opposes Telescope To Be Built On Sacred Ground.*
8. **Television/Online**; National Geographic Media Network, La Jolla, CA, 2018: *Heart Disease: how one gene makes all the difference.*
9. **Podcast**; Crooked Media, Pod Save The People, National Geographic Headquarters, Washington, DC, 2018: *Race is making everything about me: Race, genetics, & women in STEM.*
10. **Radio**; SDPR Radio, South Dakota Public Radio, Cheyenne River Reservation, SD, 2018: *Innovation: Empowering the Next-generation of Native American Scientists.*
11. **Television/Online**; National Geographic Media Network, Washington D.C., 2017: *The Origins of Leprosy Bacterium in Oceania: A Genomic History.*
12. **Online**; TED Talk, TED2016, Vancouver, BC, 2016: *Why Genetic Research Needs To Be More Diverse (1,000,000 views).*
13. **Television/Online**; Al Jazeera Media Company, The Stream, Seattle, WA, 2015: *Science on sacred land at Mauna Kea.*
14. **Radio**; Hawaii Public Radio, Seattle, WA, 2015: *Scientists on TMT: Not Of One Mind.*

RECENT MEDIA & INTERVIEWS

1. **Quoted**; The New York Times, 2020: *Scientific Journals Commit to Diversity, but Lack the Data.*
2. **Quoted**; ASU Now, 2020: *Newly discovered leprosy genomes help fill historic gaps.*
3. **Quoted**; Mother Jones, 2020: *In the COVID-19 Era, Tribal Nations Want Research in Service of Their People.*
4. **Quoted**; Wired, 2020: *Covid is Strengthening the Push for Indigenous Data Control.*
5. **Quoted**; High Country News, 2020: *Indigenous data sovereignty shakes up research.*
6. **Quoted**; Science Magazine, 2020: *Polynesians steering by the stars met Native Americans long before Europeans arrived.*
7. **Quoted**; Bloomberg Businessweek, 2020: *Biotech Startup Aims to Make Use of Humanity's Genetic Outliers.*
8. **Quoted**; The Washington Post, 2020: *Genetic researchers work to overcome suspicion among indigenous groups.*
9. **Quoted**; Nature Magazine, 2019: *Facing up to injustice in genome science.*
10. **Quoted**; Science Magazine, 2018: *Ancient DNA can help bring aboriginal Australian ancestors home.*
11. **Quoted**; The Atlantic, 2018: *The Extremely Fast Peopling of the Americas.*
12. **Quoted**; Forbes, 2018: *Seeking Greater Inclusivity In Genomics Research.*
13. **Quoted**; Science Magazine, 2018: *Bridging The Gap.*
14. **Interview**; National Geographic Magazine, 2018: *Interview with National Geographic Emerging Explorer Dr. Keolu Fox.*
15. **Interview**; OZY, 2016: *Keolu Fox's Mission: Make Genetics Look More Like America.*
16. **Interview**; The British Broadcasting Corporation (BBC), 2016: *The Man Making Genes Democratic.*
17. **Quoted**; The Atlantic, 2015: *Making Indigenous Peoples Equal Partners in Gene Research.*

REFERENCES

Upon request