

# Courtney A. Hofman

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## Appointments

University of Oklahoma, Department of Anthropology <i>Assistant Professor</i>	2016-
Department of Anthropology, National Museum of Natural History, Smithsonian Institution <i>Research Associate</i>	2015-
University of Oklahoma, Laboratories of Molecular Anthropology and Microbiome Research <i>Post-doctoral Research Associate</i>	2015-2016
University of Maryland, College Park, <i>Graduate Dean's Dissertation Fellow</i>	2014-2015
Center for Conservation and Evolutionary Genetics, Smithsonian Conservation Biology Institute <i>Pre-doctoral Fellow, Research Student</i>	2009-2015
Department of Anthropology, National Museum of Natural History, Smithsonian Institution <i>Pre-doctoral Fellow, Research Student, Intern</i>	2009-2015
University of Maryland, College Park, <i>Instructor</i>	2011-2012
University of Maryland, College Park, <i>Teaching Assistant</i>	2009-2011

## Education

University of Maryland	Ph.D. in Anthropology	2015
University of Maryland	Masters in Applied Anthropology	2011
University of Notre Dame	Biology, B.S.	2009
University of Notre Dame	Honors Anthropology, B.A.	2009

## Research Interests

Historical ecology, ancient DNA, microbiomes, coastal archaeology, genomics, translocations, conservation genetics, high-throughput DNA sequencing, bioinformatics, human-environment interactions, archaeogenomics, domestication, and science education

## Publications

- 2016 **Hofman, C.A.**, T.C. Rick, J.E. Maldonado, P.W. Collins, J.M Erlandson, W.C. Funk, R.C. Fleischer, C. Smith, T.S. Sillett, K.Ralls, W. Teeter, R. Vellanoweth, S.D. Newsome. Tracking the diet of an island canid across 7300 years of human cultural and environmental change. *Quaternary Science Reviews*. 146:147-160.
- 2016 Jeong C., A.T. Ozga, D. Witonsky, H. Malmström, H. Edlund, **C.A. Hofman**, R. Hagan, M. Jakobsson, C.M. Lewis, Jr., M. Aldenderfer, A. Di Rienzo, C. Warinner. Long-term genetic stability and a high altitude East Asian origin for the peoples of the high valleys of the Himalayan arc. *PNAS*. Early Edition.
- 2016 Rick, T.C., L. Reeder-Myers, **C.A. Hofman**, D. Breitburg, R. Lockwood, G. Henkes, L. Kellogg, D. Lowery, M. Luckenbach, R.L. Mann, M. Ogburn, M.J. Southworth, J. Wah, J. Wesson, A.H. Hines. Millennial-Scale Sustainability of the Chesapeake Bay Native American Oyster Fishery. *PNAS*. Early Edition.

- 2016 West, C.F., S.M. Dunning, S. Ebbert, **C.A. Hofman**, P.A. Saltonstall, J. Withrow. Archaeology and Invasive Species Management: The Chirikof Island Project. *Journal of Island and Coastal Archaeology*. 00:1-5.
- 2016 Funk, W.C, R.E. Lovich, P.A. Hohenlohe, **C.A. Hofman**, S.A. Morrison, T.S. Sillett, C.K. Ghalambor, J.E. Maldonado, T.C. Rick, M.D. Day, N.R. Polato, S.W. Fitzpatrick, T.J. Coonan, K.R. Crooks, A. Dillon, D.K. Garcelon, J.L. King, C.L. Boser, L.M. Lyren, E.E. Boydston, N. Gould, W.F. Andelt. Drift drives divergence: genomic analysis of the evolutionary mechanisms causing genetic differentiation in the island fox (*Urocyon littoralis*). *Molecular Ecology*. Early View.
- 2016 Ozga, A.T., M.A. Nieves-Colón, T.P. Honap, K. Sankaranarayanan, **C.A. Hofman**, G. Milner, C.M. Lewis, Jr., A.C. Stone, C. Warinner. Successful enrichment and recovery of whole mitochondrial genomes from ancient human dental calculus. *American Journal of Physical Anthropology*. Early View.
- 2015 **Hofman, C.A.**, T.C. Rick, R.C. Fleischer, J.E. Maldonado. Conservation Archaeogenomics: Ancient DNA and Biodiversity in the Anthropocene. *Trends in Ecology and Evolution*. 30:9,540-549.
- 2015 Hawkins, M, **C.A. Hofman**, T. Callicrate, M. McDonough, M. Tsuchiya, E. Gutierrez, K. Helgen, J.E. Maldonado. In Solution Hybridization for Mammalian Mitogenome enrichment: Pros, Cons, and Challenges Associated with Multiplexing Degraded DNA. *Molecular Ecology Resources*.
- 2015 **Hofman, C.A.**, T.C. Rick, M. Hawkins, W.C. Funk, K. Ralls, C. Boser, P.W. Collins, T.J. Coonan, J.L. King, S.A. Morrison, S.D. Newsome, T.S. Sillett, R.C. Fleischer, J.E. Maldonado. Mitochondrial genomes suggest rapid evolution of dwarf California Channel Islands foxes (*Urocyon littoralis*). *PLOS One* 10:2.
- 2014 Rick, T.C., T.S. Sillett, C.K. Ghalambor, **C.A. Hofman**, K. Ralls, R.S. Anderson, C. Boser, T.J. Braje, . Cayan, T. Chesser, P.W. Collins, J.M. Erlandson, K.R. Faulkner, W.C. Funk, R. Fleischer, A. Huston, J.L. King, L. Laughrin, K. McEachern, J.E. Maldonado, D.R. Muhs, S.D. Newsome, L. Reeder-Myers, C. Still, S.A. Morrison. Ecological Change on California's Channel Islands from the Pleistocene to the Anthropocene. *BioScience*, 64:8, 680-692.
- 2014 **Hofman, C.A.**, T.C. Rick. The Dogs of CA-SRI-2: Osteometry of *Canis familiaris* from Santa Rosa Island, California, USA. *Ethnobiology Letters* 5, 65-76.
- 2012 Rick, T.C., **C.A. Hofman**, T.J. Braje, J.E. Maldonado, T.S. Sillett, K. Danchisko, J.M. Erlandson. Flightless ducks, giant mice, and pygmy mammoths: Late Quaternary extinctions on California's Channel Islands. *World Archaeology* 44:1, 3-20.

### **Grants and Fellowships**

- 2016 Evidence-based experimental pathogen identification in human dental calculus. PI with C. Warinner and M. Zuckerman. National Science Foundation Biological Anthropology (\$64,468)
- 2014-2015 Graduate Dean's Dissertation Fellowship. University of Maryland (\$25,000 stipend)
- 2014 Peter Buck Pre-doctoral Fellowship. Smithsonian Institution
- 2014 Jacob K. Goldhaber Travel Grant. For travel to Society of American Archaeology meetings (\$400)
- 2014 AWS in Education Research Grant Award. Amazon Web Services (\$1000)
- 2013 Hunter-Gatherers, Archaeogenomics, and the Evolutionary History of the Foxes of California's Channel Islands. Co-PI with P. Shackel. National Science Foundation Dissertation Improvement Grant Award 1338773 (\$24,500)

- 2013 AMS Radiocarbon Dating and the Origins of the Island Fox (*Urocyon littoralis*) on California's Channel Islands. Co-PI with T.C. Rick and J.E. Maldonado. Smithsonian Small Grant (\$5000)
- 2013 Biodiversity, Genomics, and Human Ecology of California's Channel Islands. Co-PI with T.C. Rick, T. Chesser, R.C. Fleischer, J.E. Maldonado, K. Ralls, T.S. Sillett. Smithsonian Institution (\$100,000 includes stipend for Pre-doctoral fellowship)
- 2012 Smithsonian Pre-doctoral Fellowship (\$30,000 stipend and \$1000 in research funds)
- 2012 Archaeogenomics, Conservation, and Extinction of Mammals and Birds on California's Channel Islands, Co-PI with T.C. Rick, R.C. Fleischer, J.E. Maldonado, K. Ralls, T.S. Sillett. Smithsonian Institution (\$15,000)
- 2012 Ancient Biological Invasions? Hunter-Gatherers, Paleogenomics, and 'Endemic' Mammals of California's Channel Islands. Cosmos Club Foundation (\$2300)
- 2011 Ancient Biological Invasions? Hunter-Gatherers, Paleogenomics, and "Endemic" Mammals of California's Channel Islands. Co-PI with J.E. Maldonado and T.C. Rick. Smithsonian Institution Next Generation Sequencing Small Grants Program (\$6500)
- 2011 Smithsonian Next Generations Sequencing Training Grant for travel to the Paleogenomics Workshop (\$1200)
- 2011 Ancient Biological Invasions? Hunter-Gatherers, Ancient DNA, and "Endemic" Mammals of California's Channel Islands. Co-PI with J.E. Maldonado and T.C. Rick. Smithsonian Institution Small Grants Program (\$5000)
- 2011 Jacob K. Goldhaber Travel Grant. For travel to Society of American Archaeology meetings. University of Maryland (\$800)
- 2008 Learning Beyond the Classroom Grant to attend the World Archaeological Congress, Dublin June 29<sup>th</sup>-July 4<sup>th</sup>, 2008 (University of Notre Dame) (\$1250)
- 2008 Nanovic Institute Grant to attend a field school in Archaeology at the necropolis of Pintia, University of Valladolid, Spain and the Cultural Landscapes of Coastal Ireland project. June and July 2008 (University of Notre Dame) (\$4000)
- 2008 President Allocation Grant for Study Abroad Students provided to travel to Istanbul and Jordan while studying in Egypt (University of Notre Dame) (\$650)
- 2007 The Sweetman Family Foundation, funding provided for participation in a nine-day educational tour of Ireland, October 20-29, 2007. This included visiting over 50 museums and heritage sites as part of The Archaeology of Ireland class taught by Dr. I. Kuijt (University of Notre Dame) (\$1,500)
- 2007 Student International Business Council Internship Grant provided for internship teaching English in rural Thailand. Summer 2007 (University of Notre Dame)

#### **Invited Talks and Guest Lectures**

- 2015 "Archaeogenomics in the Anthropocene," Invited talk at the Research Centre for Biodiversity and Genetic Resources (CIBIO), Porto, Portugal. Sept 28, 2015
- 2015 "Molecular Methods and Conservation for Anthropologists," Guest lecture in Ecological and Environmental Anthropology class at UMD. June 3, 2015
- 2014 "Ancient Invasive Species? The Origins of the Endemic Mammals of Catalina Island," Invited talk at the Catalina Island Conservancy Research Symposium. Nov. 14, 2014

- 2014 "Molecular Methods for Archaeologists," Guest lecture in Archaeological Science class at Boston University. Nov. 11, 2014
- 2014 "Ancient Invasive Species? Historical Ecology and Origins of the California Channel Island Mammals," Invited talk at Max Planck Institute of Evolutionary Anthropology, Leipzig. May 16, 2014
- 2014 "Archaeogenomics and Translocations," Guest lecture in Archaeological Science classes at Boston University. April 8, 2014
- 2013 "Non-Invasive and Ancient DNA Approaches to Animal Translocations on California's Channel Islands," Invited lecture at the Smithsonian's Non-Invasive Genetics Course, June 4, 2013
- 2012 "Archaeogenomics, Translocations and Conservation Biology," Guest lecture in Cultural Ecology course, George Washington University. Oct. 4, 2012

### **Podium Presentations**

- 2016 Tracking Translocations: Interdisciplinary approaches to animal translocations on the California Channel Islands," **C.A. Hofman**, T.C. Rick, S. Shirazi, J.E. Maldonado. Talk at the American Society of Mammalogists meeting. Minneapolis, MN. June 24-28, 2016
- 2016 "Archaeogenomics, and the Mammals of California's Channel Islands," **C.A. Hofman**, T.C. Rick, S. Shirazi, J.E. Maldonado. Paper at the Society for American Archaeology Meetings. Orlando, FL. April 6-10, 2016
- 2015 "Tracking Translocations: Interdisciplinary approaches to animal translocations on the California Channel Islands," **C.A. Hofman**, T.C. Rick, J.E. Maldonado. Paper at the Society for American Archaeology Meetings. San Francisco, CA April 16-19, 2015. Session Co-organizer
- 2014 "Nanopore DNA Sequencing at the Center for Conservation and Evolutionary Genetics (CCEG)," S. Shirazi and **C. Hofman**. Paper at the Smithsonian Conservation Biology Institute Student Research Symposium. Front Royal, VA. August 11, 2014
- 2014 "Archaeogenomics and Conservation of the Channel Islands Fox," **C.A. Hofman**. Paper at the Smithsonian Conservation Biology Institute Student Research Symposium. Front Royal, VA. August 11, 2014
- 2014 "Mitochondrial Genomes and radiocarbon dating reveal rapid evolution of dwarf California Channel Islands foxes (*Urocyon littoralis*)," **C.A. Hofman**, T.C. Rick, M. Hawkins, W.C. Funk, K. Ralls, C. Boser, P.W. Collins, T. Coonan, J.L. King, S.A. Morrison, S.D. Newsome, T.S. Sillett, R.C. Fleischer, J.E. Maldonado. Lightning talk at Evolution. Raleigh, NC. June 20-14, 2014
- 2014 "Evolutionary History of the Island Fox Based on Complete Mitochondrial Genomes," K. Ralls, **C.A. Hofman**, T.C. Rick, M. Hawkins, W.C. Funk, C. Boser, P.W. Collins, T.J. Coonan, J.L. King, S.A. Morrison, S.D. Newsome, T.S. Sillett, R.C. Fleischer, J.E. Maldonado. Paper at the Integrated Island Fox Recovery Team. Ventura, CA. June 17-18, 2014
- 2013 "Archaeogenomics and Conservation of the Endangered Island Fox," **C.A. Hofman**, T.C. Rick, P.W. Collins, R.C. Fleischer, W.C. Funk, S.D. Newsome, K. Ralls, J.E. Maldonado. Paper at the Society of Ethnobiology meetings. Denton, May 15-18, 2013
- 2013 "Archaeogenomics and Ancient Animal Translocations on California's Channel Islands," **C.A. Hofman**, T.C. Rick, P.W. Collins, J.M. Erlandson, R.C. Fleischer, S.D. Newsome, K. Ralls, J.E. Maldonado. Paper at the Society for American Archaeology meetings. Honolulu, April 3-7, 2013. Session Co-organizer

- 2012 “Non-Invasive Genetic Sampling Approaches to Understanding Channel Island Deer Mice Origins,”  
**C.A. Hofman**, T.C. Rick, J.E. Maldonado. Paper at the California Island Symposium, Ventura, Oct.  
23-26, 2012
- 2012 “Ancient Biological Invasions? Hunter-Gatherers, Archaeogenomics, and Channel Islands Mice,”  
T.C. Rick, **C.A. Hofman**, J.M. Erlandson, J.E. Maldonado. Paper at the Society for California  
Archaeology Meetings, San Diego. March 29-April 1, 2012
- 2011 “Human Impacts on the Environment: Archaeology, Ancient DNA and California’s Channel Islands,”  
**C.A. Hofman**. Paper at the Dept. of Anthropology, UMD Annual Colloquium. March 11, 2011
- 2010 “Ancient DNA and Archaeology: A Case Study from the California Channel Islands,” **C.A. Hofman**.  
Paper at the AnthroPlus Student Conference, University of Maryland. March 6, 2010

### **Conference Posters**

- 2016 “Ancient dental calculus as a reservoir of whole human mitogenomes,” A.T. Ozga, M.N. Colon, T.  
Honap, K. Sankaranaryanan, **C.A. Hofman**, G. Milner, C. Lewis, A. Stone, C. Warinner. Poster at the  
American Association of Physical Anthropology Meetings. Atlanta, GA. April 13-16, 2016
- 2016 “Using Environmental DNA to Examine Human-Animal Interactions on the California Channel  
Islands,” S. Shirazi, **C.A. Hofman**, T.C. Rick, J.E. Maldonado. Poster at the Society for American  
Archaeology Meeting. Orlando, FL. April 6-10, 2016
- 2014 “Ancient DNA and the Origin of the Catalina Island Ground Squirrel,” **C.A. Hofman**, M. Phuong, W.  
Teeter, J.L. King, T.C. Rick, J.E. Maldonado. Poster at the Society for American Archaeology  
Meetings. Austin, TX. April 23-27, 2014
- 2011 “Ancient Biological Invasions? Hunter-Gatherers, Ancient DNA, and “Endemic” Mammals of  
California’s Channel Islands,” Poster at the Paleogenomics Workshop, Corsica. Oct. 17-21, 2011
- 2011 “Ancient Stowaways: Ancient DNA Analysis of Deer Mice from Daisy Cave, San Miguel Island, CA,”  
Poster at the Society for American Archaeology Conference, Sacramento. March 30-April 3, 2011

### **Public Outreach**

- 2016 “Tracking the origins and diet of the island fox across 7300 years of human cultural and  
environmental change. Talk at the Integrated Island Fox Recovery Team, Santa Barbara, CA June  
14-15, 2016
- 2015 Oklahoma Educators Evolve Workshop
- 2015 “Archaeology and Conservation: The Chirikof Island Project,” research highlight in The Current, vol.  
3:1, biannual island and coastal archaeology interest group, coauthored with C. West and S. Ebbert
- 2015 “Archaeology and Invasive Species: The Chirikof Island Project” blog post for the Aleutian Islands  
Working Group, June 2015, co-authored with C. West
- 2015 “The Origins of the Island Fox” blog post for the Friends of the Island Fox, Channel Islands Park  
Foundation. March 2015
- 2009-2015 Public tours and special events at the Center for Conservation and Evolutionary Genetics  
(CCEG) and at the National Zoo
- 2013 “Interdisciplinary Approaches to Understanding the Antiquity and Distribution of the Island Fox,”  
Talk at the Integrated Island Fox Recovery Team, Ventura, CA. June 11, 2013
- 2013 “Genome Geek” public program at the National Museum of Natural History. July 13, 2013

2013 Decoding the Past: Using DNA in Archaeology. Invited public lecture at the St. Augustine Lighthouse Museum, Florida. February 23, 2013

2012 "The Scientist Is In" public lecture series at the National Museum of Natural History. Nov. 14, 2012

### **Archaeological Field Experience**

2015 Kodiak Alaska: Alutiiq Museum's Community Archaeology Project

2014-2015 Rappahannock River, VA: Reconnaissance and survey of shell midden sites

2013 Santa Cruz Island, Nature Conservancy: Survey and excavation of sites under the threat of erosion

2012 Santa Rosa Island, Channel Islands National Park, CA: Mapping and excavations at several Paleocoastal sites

2011-2012 Edgewater, MD: Archaeological and ecological research at the Smithsonian Environmental Research Center

2010 Fishing Bay, MD: Survey and excavation of shell midden sites

2008 Clifden, Ireland: Survey of as part of Cultural Landscapes of the Irish Coastline project

2008 Pintia, Spain: Field school excavation of Iron Age cremation burials

Museum of Natural History, Smithsonian Institution. Washington, DC. April 18-19, 2011

### **Professional Memberships**

Society for American Archaeology (2010-present)

Society for Molecular Biology and Evolution (2015)

American Society of Mammalogists (2015)

American Association of Physical Anthropologists (2015)

### **Peer Review**

Molecular Ecology Resources

Ethnobiology Letters

PLOS One