CURRICULUM VITAE

RICHARD J. GEORGE
PhD in Anthropology
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EDUCATION

The Pennsylvania State University, University Park, PA
PhD, Anthropology, May 2020
Dissertation Title: Postclassic Population aggregation, urban Diet, and Genetic Diversity at the political capital of Mayapán
Primary Advisor: Douglas Kennett
Committee: George Perry, Jose Capriles, Matthew Restall, Sarah McClure

California State University, Fullerton, CA
Master of Arts, Anthropology (Archaeology), May 2013
Thesis Title: Obsidian Use by Coastal Hunter-Gatherers in Southern California: Provenance Analysis of Obsidian Artifacts from CA-ORA-64 comparing XRF and LA-TOF-ICP-MS
Primary Advisor: Brenda Bowser
Committee: Hector Neff, John Patton, Carl Wendt

University of California, Santa Barbara, CA
Bachelor of Arts, Anthropology (Cultural Anthropology), December 2006

Saddleback College, Mission Viejo, CA
Associate of Arts, Anthropology, May 2004

APPOINTMENTS AND RELEVANT EXPERIENCE

2020 – current Postdoctoral scholar, Kennett Lab, Advisor Douglas Kennett – Department of Anthropology, University of California, Santa Barbara, CA

2019 – 2020 Laboratory Researcher, Kennett Lab, supervisor Douglas Kennett – Department of Anthropology, University of California, Santa Barbara, CA

2015 – 2019 Laboratory Research Assistant, Human Paleoecology and Isotope Geochemistry Laboratory, supervisor Douglas Kennett – Department of Anthropology, The Pennsylvania State University, University Park, PA

2015 – 2019 Ancient Molecular Genetics Research Assistant, supervisor George Perry – Department of Anthropology, The Pennsylvania State University, University Park, PA

2014 – 2015 Molecular Genetics Training, supervisor Logan Kistler – Department of Anthropology, The Pennsylvania State University, University Park, PA

2013 – 2018 Ceramics Laboratory Supervisor – Department of Anthropology, The Pennsylvania State University, University Park, PA

2010 – 2013 Research Assistant - The Institute for Integrated Research in Materials, Environments, and Society: Archaeometry Department, California State University, Long Beach, CA

LABORATORY EXPERIENCE

2020 Laboratory manager and research supervisor – Primary focus is stable isotope analysis, AMS radiocarbon dating, and bioinformatics for archaeological and ecological applications – Department of Anthropology, University of California, Santa Barbara

2019 Ancient Scarlet Macaw full genome research, Sequencing and assembly of low-coverage ancient genomes – Department of Anthropology, Penn State
Development of bioinformatics pipelines to investigate relatedness and potential inbreeding effects.

2017 Ancient Scarlet Macaw mitogenome research, Extraction, DNA library preparation, Capture enrichment, and Illumina Next generation sequencing - Department of Anthropology, Penn State
Development of benchtop protocols and bioinformatics pipelines for the extraction and sequencing of ancient DNA from bird bones with less than 50 mg of material.

2016 Ancient mitogenome research, Extraction, DNA library preparation, Capture enrichment, and Illumina Next generation sequencing - Department of Anthropology, Penn State
Development of benchtop protocols and bioinformatics pipelines for the extraction and sequencing of ancient DNA from human skeletal material.

2016 Lead and strontium geochemical researcher, Nu Plasma multi-collector inductively coupled-plasma mass spectrometer (MC-ICP- MS), Department of Geological Sciences Clean Lab, University of Florida
Visiting researcher, trained in lead isotope geochemistry, sample preparation, column chemistry and analysis

2015 Strontium geochemical researcher, Thermo-Scientific Neptune Plus multi-collector inductively coupled mass spectrometer (MC-ICP- MS), Laboratory for Isotopes and Metals in the Environment (LIME)**,** Earth and Environmental Systems Institute, Pennsylvania State University
Trained in laboratory methods in geochemistry, prepared enamel samples for column separation chemistry and analyzed strontium isotopes

2015 – Present Ancient DNA Molecular Researcher Supervisor, Department of Anthropology, The Pennsylvania State University
Prepare DNA extractions from bone and tooth sample, barcoded libraries, and capture baits for high throughput sequencing in Illumina platforms

2013 – Present Research Assistant, Human Paleoecology and Isotope Geochemistry Laboratory, Department of Anthropology, The Pennsylvania State University
Prepare AMS radiocarbon and isotope analysis in tooth and bone

2013 – Present Proyecto Costero Arcaico-Formativo Chiapas – Doug Kennett, The Pennsylvania State University
XRF analysis of 276 obsidian artifacts from Los Cerritos, El Grillo, and Puerto Marquez

PUBLICATIONS

(n.d.) (Accepted) Daniel M. Fernandes, Kendra A. Sirak, Harald Ringbauer, Jakob Sedig, Nadin Rohland, Olivia Cheronet, Matthew Mah, Swapan Mallick, Iñigo Olalde, Brendan J. Culleton, Nicole Adamski, Rebecca Bernardos, Guillermo Bravo, Nasreen Broomandkhoshbacht, Kimberly Callan, Francesca Candilio, Lea Demetz, Kellie Sara Duffett Carlson, Laurie Eccles, Suzanne Freilich, **Richard J. George**, Ann Marie Lawson, Kirsten Mandl, Fabio Marzaioli, Weston McCool, Jonas Oppenheimer, Kadir T. Özdogan, Constanze Schattke, Ryan Schmidt, Kristin Stewardson, Filippo Terrasi, Fatma Zalzala[3,6], Carlos Arredondo Antúnez[15], Ercilio Vento Canosa[16], Roger Colten[17], Andrea Cucina, Francesco Genchi, Claudia Kraan, Francesco La Pastina, Michaela Lucci, Marcio Veloz Maggiolo, Beatriz Marcheco-Teruel, Clenis Tavarez Maria, Cristian Martínez, Ingeborg París, Michael Pateman, Tanya Simms, Carlos Garcia Sivoli, Miguel Vilar, Douglas J. Kennett, William F. Keegan, Alfredo Coppa, Mark Lipson, Ron Pinhasi, David Reich. A genetic history of the pre-contact Caribbean. Submitted to **Nature.** Prepublication available at *bioRxiv* **https://doi.org/10.1101/2020.06.01.126730.**

(n.d.) Douglas J. Kennett, Mark Lipson, Keith M. Prufer, **Richard J. George**, Nadin Rohland, Mark Robinson, Willa R. Trask, Heather H.J. Edgar, Ethan C. Hill, Erin E. Ray, Paige Lynch, Emily Moes, Lexi O'Donnell, Thomas K. Harper, Emily J. Kate, Josue Ramos, John Morris, Said Gutierrez, Timothy M. Ryan, Brendan J. Culleton, Jaime J. Awe, David Reich. Large-scale migration from the South Coincided with the Arrival of Farming in the Maya Region**.** Submitted to **Science**.

(n.d.) (In preparation) Mallory A. Melton, Amber M. VanDerwarker, Gregory D. Wilson, **Richard J. George**, Douglas J. Kennett. Stable Carbon and Nitrogen Isotope Analysis of Maize Kernels in the Central Illinois River Valley Reveal Changing Agricultural Strategies in the Context of Drought and War. Intended publication - *Journal of Archaeological Science.*

(n.d.) (In preparation) José M. Capriles, Calogero M. Santoro, **Richard J. George**, Eliana Flores Bedregal, Douglas J. Kennett, and Francisco Rothhammer. Multiproxy Analysis of Mummified Parrots from the Atacama Desert Reveals Precolumbian Transregional Captive Rearing. Intended publication - *Nature: Scientific Reports.*

(n.d.) (In preparation) **Richard J. George**, Stanley Serafin, Marilyn A. Masson, Carlos Peraza Lope, Lori Wright, John Krigbaum, George Kamenov, Douglas J. Kennett Strontium isotopic evidence reveals high levels of in-migration during the formation, apogee and decline of the Postclassic city of Mayapán. Intended publication – *Journal of Archaeological Science.*

2020 Logan Kistler, Heather B. Thakar, Amber M. VanDerwarker, Alejandra Domic, Anders Bergstrom, **Richard J. George**, Thomas K. Harper, Robin G. Allaby, Kenneth Hirth, Douglas J. Kennett. Archaeological Central American Maize Genomes Suggest Ancient Gene Flow from South America. *Proceedings of the National Academy of Sciences*. **https://doi.org/10.1073/pnas.2015560117**

2020 Douglas J. Kennett, Keith M. Prufer, Brendan J. Culleton, **Richard J. George**, Mark Robinson, Willa R. Trask, Gina M. Buckley, Emily Moes, Emily J. Kate, Thomas K. Harper,

Lexi O'Donnell, Erin E. Ray, Ethan C. Hill, Asia Alsgaard, Christopher Merriman, Clayton Meredith, Heather J. H. Edgar, Jaime J. Awe, Said M. Gutierrez. Early isotopic evidence for maize as a staple grain in the Americas. **Science Advances, 6(23), eaba3245. DOI:10.1126/sciadv.aba3245**

2020 **Richard J. George**. *Postclassic Population Aggregation, Urban Diet, and Genetic Diversity at the Political Capital of Mayapán.* Dissertation, Department of Anthropology, The Pennsylvania State University (Embargo release date 2022).

2018 **Richard J. George**, Stephen Plog, George Amato, Brendan J. Culleton, Santiago Claramunt, Patricia A. Gilman, Thomas K. Harper, Logan Kistler, Steven A. LeBlanc, Kari L. Schmidt, Adam S. Watson, Peter Whiteley, and Douglas J. Kennett. Archaeogenomic evidence from the southwestern US points to a pre-Hispanic scarlet macaw breeding colony. ***Proceedings of the National Academy of Sciences*, *115*(35), pp.8740-8745. https://doi.org/10.1073/pnas.1805856115**

2017 Kennett, Douglas J., Steve Plog, **Richard J. George**, Brendan J. Culleton, Adam S. Watson, Postus Skoglund, Nadin Rohland, Swampan Mallick, Kristin Stewardson, Logan Kistler, Steven A. LeBlanc, Peter M. Whiteley, David Reich, and George H. Perry . Archaeogenomic evidence reveals prehistoric matrilineal dynasty. ***Nature Communications* 8:14115. DOI: 10.1038/ncomms14115**

(n.d.) (In Revision) Maya N. Evanitsky, **Richard J. George**, Stephen Johnson, Stephanie Dowell, and George H. Perry. Mitochondrial genomes of the regionally extinct Nittany Lion (Puma concolor from Pennsylvania). Submitted to *Nature: Scientific Reports*. Prepublication available at *bioRxiv* (2017): 214510. doi: https://doi.org/10.1101/214510

2016 Neff, Hector, Scott J. Bigney, Sachiko Sakai, Paul R. Burger, Timothy Garfin, **Richard J George**, Brendan J Culleton, and Douglas J Kennett. Characterization of Archaeological Sediments Using Fourier Transform Infrared (FT-IR) and Portable X-ray Fluorescence (pXRF): An Application to Formative Period Pyro-Industrial Sites in Pacific Coastal Southern Chiapas, Mexico. **Applied Spectroscopy 70(1) 110 – 127. DOI: 10.1177/0003702815617124.**

2013 **George, Richard**. *Obsidian Use by Coastal Hunter-Gatherers in Southern California: Provenance Analysis of Obsidian Artifacts from CA-ORA-64 comparing XRF and LA-TOF-ICP-MS*. M.A. thesis, Department of Anthropology, California State University, Fullerton. **ISBN: 978-1-303-47346-3**

PRESENTATIONS & ABSTRACTS

2020 (Canceled) Session in honor of Hector Neff. *Strontium isotopic evidence reveals high levels of in-migration during the formation, apogee and decline of the Postclassic city of Mayapán* Paper presentation at the 85th Annual Meeting of the Society for American Archaeology, Austin, Texas, USA. **Richard J. George**, Douglas J. Kennett, Stanley Serafin, Marilyn A. Masson, Carlos Peraza Lope, Lori Wright, John Krigbaum, George Kamenov.

2020 (Canceled) *Strontium isotopic evidence reveals high levels of migration impacted the urban population during the formation, apogee and decline of the Postclassic city of Mayapán*. Paper presentation at the 89th Annual Meeting of the American Association of Physical Anthropologists, Los Angeles, California, USA. **Richard J. George**, Stanley Serafin, John Krigbaum, and Douglas J. Kennett.

2019 Session in Frontiers in Animal Management: Unconventional Species, New Methods, and Understudied Regions. *Archaeogenomic Evidence from the American Southwest Points to a Pre-Hispanic Scarlet Macaw Breeding Colony North of the Endemic Neotropical Range in Mexico between 900 And 1200 CE*. Paper presentation at the 84nd Annual Meeting of the Society for American Archaeology, Albuquerque, New Mexico, USA. **Richard J. George**, Stephen Plog, Adam S. Watson, Kari L. Schmidt, Logan Kistler, Brendan J. Culleton, Thomas K. Harper, Patricia A. Gilman, George Amato, Peter Whiteley, and Douglas J. Kennett.

2017 *Stable isotope analysis of animal diets at the Postclassic regional capital of Mayapan.* Paper presentation at the 82nd Annual Meeting of the Society for American Archaeology, Vancouver, B.C., Canada. **Richard J. George**, Claire E. Ebert, Brendan J. Culleton, Marilyn A. Masson, and Douglas J. Kennett.

2015 *Archaic and Formative Period Obsidian Exchange on the coast of Guerrero, Mexico*. Poster presented at the 80th annual meeting of the Society for American Archaeology, San Francisco, CA. **Richard J. George**, Claire Ebert, Sarah B. McClure, Barbara Voorhies, and Douglas J. Kennett.

2015 *Preclassic to Postclassic Period Obsidian Exchange and Regional Interaction in the Belize River Valley*. Poster presented at the 80th annual meeting of the Society for American Archaeology, San Francisco, CA. Claire Ebert, **Richard J. George**, Julie Hoggarth, R. Guerra, and Jaime Awe.

2015 *Multi-Scalar Settlement Patterns and Territorial Organization in the Belize River Valley*. *Session Title: Lowland Maya Territories: Local Dynamics in Regional Landscapes.* Paper presented at the 80th annual meeting of the Society for American Archaeology, San Francisco, CA. Julie A. Hoggarth, Jaime J. Awe, **Richard J. George**, Claire E. Ebert, Rafael A. Guerra, and Michael Petrozza.

2014 *Provenance Analysis of Obsidian Artifacts from CA-ORA-64 Comparing XRF and LA-TOF-ICP-MS*. Paper presentation at the 79th Annual Meeting of the Society for American Archaeology, Austin.

2014 *Regional Interaction and Obsidian Use during the Early and Middle Holocene at the Irvine Site (CA-ORA-64)*. Paper presentation at the 48th Annual Meeting of the Society for California Archaeology, Visalia (with Brenda Bowser and Hector Neff).