

## JOHN V. DUDGEON

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### *Education*

- 2008 Ph. D. (with Distinction), Department of Anthropology, University of Hawai'i, Mānoa  
*Thesis: The Genetic Architecture of the Late Prehistoric and Proto Historic Rapa Nui (Easter Islanders).*  
*Committee:* T. L. Hunt (chair), R. Cann, M. Pietruszewsky, N. Etkin, T. Lyttle, C. P. Lipo
- 1998 M. A., Department of Anthropology, University of Washington, Seattle  
*Advisor:* R. C. Dunnell
- 1990 B. A., Department of Anthropology, University of Colorado, Boulder

### *Research Interests (Current and Ongoing)*

- Archaeogenetics, migration and colonization; phylogenetic modeling and relatedness estimation methods
- Archaeological chemistry, trace elements and stable isotopes in biological and geological artifacts
- Skeletal residue analysis, microfossils and post-depositional alteration of bone
- Quantitative analysis of use and performance characteristics of archaeomaterials
- Oceanic prehistory and human adaptation in island ecosystems, diet and resilience

### *Professional Experience*

#### Teaching

- 2013— Associate Professor, Department of Anthropology, Idaho State University
- 2011 – 12 Affiliate Faculty, Department of Biological Sciences, Idaho State University
- 2010 – 11 Affiliate Faculty, Environmental Science and Management, Idaho State University
- 2008 – 13 Assistant Professor, Department of Anthropology, Idaho State University
- 2005 – 07 Laboratory Instructor, IIRMES, California State University, Long Beach

#### Research

- 2013— Director, Center for Archaeology, Materials and Applied Spectroscopy (CAMAS)
- 2012— Curator of Materials Analysis, Idaho Museum of Natural History
- 2011— Affiliate Curator of Archaeology, Idaho Museum of Natural History
- 2010— Principal Investigator – Archaeological and forensic genetics, Molecular Research Core Facility (MRCF) and Ancient and Forensic DNA Extraction Laboratory (ADEL), Idaho State University
- 2008— Research Lead – Archaeometry and Materials Analysis, Center for Archaeology, Materials and Applied Spectroscopy (CAMAS), Idaho State University
- 2005 – 07 Research Coordinator, IIRMES, California State University, Long Beach

#### Other Experience

- 2010— Forensic analyst and expert at trial, Nampa, Idaho Prosecuting Attorney's Office
- 2009— Contract Analyst, Trace Metals and Environmental Contaminants, ISU Technical Safety Office
- 2008— Consulting Forensic Anthropologist, Bonneville County (Idaho) Sheriff's Department

*Publications (\*\*denotes student author)*

- In Prep.* *The Past in Motion: Archaeological Perspectives on the Circulation of People and Objects* (co-editor with C. Freiwald. Equinox Press—under contract).
- In Press* Dudgeon, J.V., Commendador, A.S., Tromp, M. Archaeogenetics and paleodemographic estimation of founding populations: Features of residential geography on Rapa Nui. *In* Stefan, V. and G. Gill, (Ed.), *Skeletal Biology of the Ancient Rapa Nui*. Cambridge University Press.
- In Press* Dudgeon, J.V., Tromp, M., Hanks, B.K., Epimakhov, A. Investigating Biogenic versus Diagenetic Trace Element Incorporation in Archaeological Mineralized Tissues with LA-ICP-MS. *In* L. Dussubieux, B. Gratuze and M. Golitko (Ed.), *Recent Advances in Laser Ablation ICP-MS for Archaeology*. Springer-Verlag, Ltd..
- In Press* Peterson, D.L., Dudgeon, J.V., Gevorkyan, A., Tromp, M., Meliksetian, K., Bobokhyan, A. LA-ICP-MS analysis of prehistoric copper and bronze metalwork from Armenia. *In* L. Dussubieux, B. Gratuze and M. Golitko (Ed.), *Recent Advances in Laser Ablation ICP-MS for Archaeology*. Springer-Verlag, Ltd..
- In Revision* Dudgeon, J. V., H. Hogue and H. Neff. Mechanisms of diagenetic alteration in tenant farmer’s remains from Mississippi. *Journal of Archaeological Science*.
- Submitted Tromp, M., Dudgeon, J.V., Buckley, H.R., Matisoo-Smith, E. Dental Calculus and Plant Diet in Oceania. *In* M. Oxenham and H. Buckley (Ed.), *The Routledge Handbook of Bioarchaeology in Southeast Asia and the Pacific*. Taylor & Francis/Routledge, Ltd.
- 2014 Tromp, M., Dudgeon, J.V. Differentiating dietary and non-dietary microfossils extracted from human dental calculus: The importance of sweet potato (*Ipomoea batatas*) in ancient Rapa Nui (Easter Island) diet. *Journal of Archaeological Science*.
- 2014 Commendador, A. S., Dudgeon, J. V., Fuller, B. T., Finney, B. P. New Radiocarbon Dates from Human Skeletal Material on Rapa Nui: Evaluating the Effect of Marine-Derived Carbon. *Radiocarbon* (1st ed., vol. 56, pp. 1–18). Arizona Board of Regents on behalf of the University of Arizona.
- 2013 \*\*A. S. Commendador, J. V. Dudgeon, B. P. Finney, B. T. Fuller and \*\*K. S. Esh. A stable isotope ( $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$ ) perspective on human diet on Rapa Nui (Easter Island) ca. AD 1400–1900. *American Journal of Physical Anthropology* 152(2):173–185.
- 2012 Lipo, C. P., R. C. Dunnell, M. J. O’Brien, \*\*V. Harper and J. Dudgeon. Beveled Projectile Points and Ballistics Technology. *American Antiquity* 77(4):774–788.
- 2012 Dudgeon, J. V. and \*\*M. Tromp. Diet, geography and drinking water in Polynesia: microfossil research from archaeological human dental calculus, Rapa Nui (Easter Island). *International Journal of Osteoarchaeology*. Published online 16 May 2012, DOI: 10.1002/oa.2249.
- 2012 Golitko, M., J. V. Dudgeon, H. Neff and J. Terrell. Identification of Post-Depositional Chemical Alteration of Ceramics from the North Coast of Papua New Guinea (Sanduan Province) by Time of Flight-Laser Ablation-Inductively Coupled Plasma-Mass Spectrometry (TOF-LAICP-MS). *Archaeometry* 54(1):80-100.
- 2011 \*\*Abdullah, M.M., \*\* A. R. Ly, W. A. Goldberg, \*\* K. A. Clarke-Stewart, J. V. Dudgeon, \*\* C. G. Mull, \*\* T. J. Chan, \*\* E. E. Kent, A. Z. Mason and J. E. Ericson. Heavy Metal in Children’s Tooth Enamel: Related to Autism and Disruptive Behaviors? *Journal of Autism and Developmental Disorders* DOI: 10.1007/s10803-011-1318-6.
- 2008 Dudgeon, J. V. The Genetic Architecture of the Late Prehistoric and Proto Historic Rapa Nui (Easter Islanders). Unpublished Ph.D. Dissertation, University of Hawai’i, Mānoa.
- 2008 Dudgeon, J. V. *Book Review: Janaab Pakal of Palenque: Reconstructing the Life and Death of a Maya Ruler*. Tiesler, V., A. Cucina (eds). *Latin American Antiquity* (1):19.
- 2007 Dudgeon, J. V., W. Balsanek, H. Neff, A. Saint. Exploring the Analytical Utility of LA-ICP-TOFMS for the Provenancing of Archaeological Materials. Special session publication, *Federation of Analytical Chemistry and Spectroscopy Societies (FACSS)*.
- 2007 Dudgeon, J. V., H. Neff, A. Saint and W. Balsanek. Evaluating the precision requirements for isotope ratio determination of archaeological materials using LA-TOF-ICP-MS: Increasing Ratio Precision. *In* M. D. Glascock, R. J. Speakman and R. S. Popelka-Filcoff (eds), *Archaeological Chemistry: Analytical Techniques and Archaeological Interpretation*. Oxford University Press.

- 2007 Cucina, A., J. Dudgeon and H. Neff. Methodological strategy for the analysis of human dental enamel by LA-ICP-MS. *Journal of Archaeological Science* 34(11):1884-1888.
- 2007 \*\*Hale, L. F., J. V. Dudgeon, A. Z. Mason and C. Lowe. Elemental signatures in the vertebral cartilage of the round stingray, *Urobatis halleri*, from Seal Beach, California. *Environmental Biology of Fishes, Special Edition: Age and growth of chondrichthyan fishes: new methods, techniques, and analyses*.
- 2006 Dudgeon, J. V. Phylogeography of archaeological populations: A case study from Rapa Nui (Easter Island). In C. P. Lipo, M. J. O'Brien, M. Collard and S. J. Shennan (eds), *Mapping Our Ancestors: Phylogenetic Approaches in Anthropology and Prehistory*, pp. 131-148. New York: Aldine.

*Conference Presentations (Since 2012)*

- 2013 Jerrems, W., J. V. Dudgeon and \*\*C. Meredith. Testing the extinction paradigm: Evidence of tool manufacture from extinct megafauna at the end of the Younger Dryas. To be presented at the 78<sup>th</sup> Annual Meeting of the Society for American Archaeology, April 3 – 7, 2013.
- 2013 Dudgeon, J. V., \*\*M. Tromp, \*\*A. Commendador and \*\*R. Hazard. Colonization Histories Revealed through Archaeogenetic Analysis of Prehistoric Rapa Nui Skeletons. To be presented at the 78<sup>th</sup> Annual Meeting of the Society for American Archaeology, April 3 – 7, 2013.
- 2013 \*\*Commendador, A., J. Field, J. V. Dudgeon and T. Reith. The Diet of Rodents, Pigs, and Dogs in Prehistoric Hawai'i Island: Implications for an Evolving Agricultural Landscape from Isotopic Analyses. To be presented at the 78<sup>th</sup> Annual Meeting of the Society for American Archaeology, April 3 – 7, 2013.
- 2012 \*\*Commendador, A., B. Finney and J. V. Dudgeon. Small Mammal Isotopes as Potential Indicators of Climate Change on the Snake River Plain, Idaho. To be presented at the 33<sup>rd</sup> Great Basin Anthropological Conference, October 17 – 21, 2012.
- 2012 Dudgeon, J. V., \*\*J. Pink, \*\*A. Commendador and \*\*M. Tromp. Mechanical Properties Testing of Snake River Plain Obsidians as Proxy Performance Data for Source Procurement and Use through Time. To be presented at the 33<sup>rd</sup> Great Basin Anthropological Conference, October 17 – 21, 2012.
- 2012 \*\*Commendador, A. S., \*\*W. Rauh, J. V. Dudgeon, \*\*K. Esh and B. Finney. Diet reconstruction in prehistoric Rapa Nui and its implications for models of resource depletion. Presented at the 8<sup>th</sup> International Conference on Easter Island and the Pacific, July 8 – 13, 2012.
- 2012 Dudgeon, J. V., \*\*M. Tromp and \*\*A. S. Commendador. Archaeogenetics and paleodemographic estimation of founding populations and features of residential geography on Rapa Nui (Easter Island). Presented at the 8<sup>th</sup> International Conference on Easter Island and the Pacific, July 8 – 13, 2012.
- 2012 Field, J. S., J. V. Dudgeon and \*\*A. S. Commendador. Isotopic analysis of rodent diet in prehistoric Kohala: Implications for food production and landscape change. Presented at the 8<sup>th</sup> International Conference on Easter Island and the Pacific, July 8 – 13, 2012.
- 2012 \*\*Holmer N., M. Holmer and J. V. Dudgeon. Geometric morphometric analysis of the permanent dentition for testing bioarchaeological kinship hypotheses on Rapa Nui. Presented at the 8<sup>th</sup> International Conference on Easter Island and the Pacific, July 8 – 13, 2012.
- 2012 \*\*Morrison, A. E. and J. V. Dudgeon. Geochemical sourcing of Rapa Nui (Easter Island, Chile) obsidian with laser ablation inductively coupled plasma mass spectrometry (LA-ICPMS). Presented at the 8<sup>th</sup> International Conference on Easter Island and the Pacific, July 8 – 13, 2012.
- 2012 \*\*Tromp, M. and J. V. Dudgeon. Dietary microfossils from Rapa Nui dental calculus: Does regional variability provide evidence for subsistence practices?. Presented at the 8<sup>th</sup> International Conference on Easter Island and the Pacific, July 8 – 13, 2012.
- 2012 \*\*Tromp, M. and J. V. Dudgeon. Examining ecologically-scaled resource distribution through microfossils extracted from human dental calculus using SEM-EDS and image analysis software. Presented at the 8<sup>th</sup> International Conference on Easter Island and the Pacific, July 8 – 13, 2012.
- 2012 Dudgeon, J. V., \*\*M. Tromp and \*\*A. Commendador. Archaeogenetics and paleodemographic estimation of founding populations, and features of residential geography on Rapa Nui (Easter Island). Presented at the 81<sup>st</sup> annual meeting of the American Association of Physical Anthropologists, April 11 – 14, 2012.

- 2012 \*\*Commendador, A., \*\*W. Rauh, J. V. Dudgeon, \*\*K. Esh and B. Finney. Stable Isotope Diet Reconstruction in Prehistoric Rapa Nui and its Implications for Models of Resource Depletion. Presented at the 81<sup>st</sup> annual meeting of the American Association of Physical Anthropologists, April 11 – 14, 2012.
- 2012 \*\*Tromp, M. and J. V. Dudgeon. Dietary microfossils from Rapa Nui dental calculus: Does regional variability provide evidence for subsistence practices? Presented at the 81<sup>st</sup> annual meeting of the American Association of Physical Anthropologists, April 11 – 14, 2012.
- 2012 \*\*Holmer, N., \*\*M. Tromp and J. V. Dudgeon. Bone char as a proxy for archaeological bone? An assessment of diagenetic element uptake in biological material. Presented at the 77<sup>th</sup> Annual Meeting of the Society for American Archaeology, April 18 – 22, 2012.
- 2012 \*\*Nelson, A. M., \*\*D. Bastakoti and J. V. Dudgeon. Do performance criteria explain variation in archaeological selection and use of Snake River obsidian? Presented at the 77<sup>th</sup> Annual Meeting of the Society for American Archaeology, April 18 – 22, 2012.
- 2012 \*\*Meredith, C. and J. V. Dudgeon. Analysis of diagenesis in dental materials using FTIR as an indicator for potential further biomolecular analysis: a case study in the Pacific. Presented at the 77<sup>th</sup> Annual Meeting of the Society for American Archaeology, April 18 – 22, 2012.
- 2012 Peterson, D. L., P. Kuznetsov, J. V. Dudgeon, \*\*B. Paige, \*\*M. Tromp and O. Mochalov. Microstructure and trace element composition of Late Bronze Age gold work from the Middle Volga (Samara, Russia, ca. 1800-1700 BC): Investigation of diffusion bonding and sources. Presented at the 77<sup>th</sup> Annual Meeting of the Society for American Archaeology, April 18 – 22, 2012.

#### *Technical Reports and Special Publications (non-published) (Since 2010)*

- 2012 *Summary Report on Chemical Testing of Hair Fibers from Taxidermied Tiger in Bennion Room, Holt Arena, Idaho State University.* Prepared by J. V. Dudgeon, August 2011.
- 2011 *Analysis and report on round robin LA-ICP-MS on modern and historic glass samples: validation and inter-laboratory comparability study, Field Museum, Chicago, Illinois.* Prepared by J. V. Dudgeon and M. Tromp, July 2011.
- 2011 *LA-ICP-MS Analysis of Human and Animal Archaeological Skeletal Material from the Kamennyi-Ambar 5 Cemetery, Karagaily-Ayat River Valley, southern Urals, Russia.* Prepared by J. V. Dudgeon and D. L. Peterson, May 2011.
- 2011 *Enhanced Discrimination of Source/Subsource Variation for Provenancing Archaeological Obsidians in Easter Island (Rapa Nui) using Laser Ablation ICP-MS.* Prepared by J. V. Dudgeon, January 2011.
- 2010 *Report on lead and other heavy metals recovered by sampling swabs associated with historic firing range activities, Reed Gymnasium, Idaho State University.* Prepared by J. V. Dudgeon, September 2010.
- 2010 *LA-ICP-MS Analysis of fish vertebrae recovered from archaeological excavations along the Columbia River, Washington/Oregon border.* Prepared by J. V. Dudgeon, September 2010.
- 2010 *Report to the Nampa, Idaho Municipal Police Department: Identification of forensic glass residues recovered from burglary suspect, Case Number XX-XXXX.* Prepared by J. V. Dudgeon, May 2010.

#### *Awards, Grants and Fellowships (Since 2010)*

- Pending* NSF Archaeometry: Improving access to coordinated archaeometric services, method development and post-analysis data validation and interpretation—\$249,213; Co-PI with H. Neff, B. Finney.
- Pending* US Bureau of Land Management Grant: Small mammals as indicators of Holocene climate change on the Snake River Plain: Implications for landscape and resource management on Public Lands in Idaho—\$120,490; Co-PI with B. Finney, A. Commendador.
- 2012 NSF Archaeology Collaborative Grant: Investigating the Subsistence Transition in Post-Lapita Fiji (2500-1500 years BP)—\$74,300; PI with J. S. Field, C. Roos.
- 2012 Idaho State University—University Research Council Grant: Dietary Subsistence in Prehistoric Rapa Nui: Empirical Evidence for Modeling Resource Depletion and Ecological Collapse in Isolated Island Environments—\$11,893.

- 2012 Idaho State University—College of Arts and Letters Supplemental Grant: Development of Remote Sensing Photogrammetry Capability at ISU—\$3,047.
- 2012 Idaho State University—College of Arts and Letters Special Projects Grant: Student recruitment and retention through improved visibility of student research at conferences and scholarly meetings—\$4,992.
- 2011 NSF MRI Grant: Next-Generation Sequencing for the ISU Molecular Research Core Facility (MRCF)—\$246,166; Co-PI with M. A. Thomas, J. M. Pfau and C. Evilia.
- 2011 Humanities and Social Science Research Council: Mapping Complex Bronze and Iron Age Networks in the South Caucasus—\$8,000.
- 2010 Idaho State University—Faculty Enhancement Grant: Building capacity and expanding research activity in anthropological genetics—\$4,980.

#### *University/Department Service*

- 2014— Vice Chair, University Research Council, ISU
- 2013— Social and Behavioral Sciences Representative, Faculty Senate, ISU
- 2011 – 12 Social and Behavioral Sciences Representative, University Graduate Council, ISU
- 2011— Graduate Program Coordinator, Department of Anthropology, ISU
- 2011— Molecular Advisory Committee, Molecular Research Core Facility (NIH BRIN), ISU
- 2011— Tenure and Promotion Committee, Department of Biological Sciences, ISU
- 2011— Junior Faculty Representative – Chair Search Committee, Department of Anthropology, ISU
- 2010— Faculty Representative, Student Anthropology Society, ISU
- 2010 College of Arts and Letters Sabbatical Committee, ISU
- 2008— Webmaster; Mailman listserv, Blogspot and Archaeological Sciences Data Server Coordinator, Department of Anthropology, ISU
- 2008— Governance Board, Center for Archaeology, Materials and Applied Spectroscopy (CAMAS), ISU

#### *Professional Activities*

- 2013 Co-organizer for 20th Congress of the Indo-Pacific Prehistory Association symposium: *Changing ideas, changing islands: New research in Western Polynesian prehistory*, Siem Reap, Cambodia, January 2014
- 2012 Organizer for 8<sup>th</sup> International Conference on Easter Island and the Pacific symposium: *Bioanthropology of the Pacific: Recent Applications of Bioarchaeological Inquiry*, Santa Rosa, California, July 2012
- 2012 Proposal Reviewer: Molecular Research Core Facility (MRCF) Graduate Student Seed Grant Competition, April 2012
- 2012 *Leveraging Special Project's funding in the College of Arts and Letters*. Presentation to the Dean's Advisory Board Meeting, April 6, 2012
- 2010— Peer Reviewer: *Journal of Archaeological Science*, *Journal of Anthropological Archaeology*, *Journal of Environmental Analytical Chemistry*, *Journal of Forensic Nursing*, *Geoarchaeology*, *Hawaiian Archaeology*, *PLoS*, NSF-BCS
- 2010 Organizer (with D. L. Peterson) for SAA symposium: *Social Archaeometry: Promise and Prospects in the Anthropological Sciences*, 75<sup>th</sup> Meeting of the Society for American Archaeology, St. Louis, Missouri, April 14 – 18, 2010
- 2009 – 11 Faculty Mentor: NSF-REU (Research Experience for Undergraduates) Program, Archaeology and Applied Plasma Physics at Idaho State University
- 2009 Special Presentation, College of Arts and Sciences Dean's Advisory Council: *The Future and Prospects for Anthropological Science at ISU*, September 25, 2009

#### *Student Committees*

- 2013— Chair, M.S. Candidate Rebecca Hazard (Anthropology; Arch Genetics); New Graduate

- 2012— Chair, M.S. Candidate Elise Krauel (Anthropology; Obsidian Properties); New Graduate
- 2012— Chair, M.S. Candidate Adam Clegg (Anthropology; GIS Applications); New Graduate
- 2010— Chair, M.S. Candidate Clayton Meredith (Anthropology; Arch Chem); Graduated fall 2014
- 2009 – 12 Chair, Monica Tromp (M.S. Anthropology; Bioarch); Graduated spring 2012
- 2009 – 11 External Member, Levan Tkavadze (Ph.D. Nuclear Physics); Graduated spring 2012
- 2009 – 10 External Member, M.S. Candidate Sandeep Vangari (Civil Engineering); Graduated fall 2010
- 2009 – 10 External Member, M.S. Candidate Martin Sorenson (Civil Engineering); Graduated spring 2010
- 2008 – 10 External Member, M.S. Candidate Katherine Potter (Geosciences); Graduated spring 2010

*Recent Research Collaborators and Co-Authors*

Michael Glascock, University of Missouri (MURR)

Mark Golitko, Field Museum, Chicago, Illinois

Ethan Cochrane and Alex Morrison, University of  
Auckland, New Zealand

Hector Neff, Cal State University, Long Beach

Sunday Eiselt, Southern Methodist University

John Terrell, Field Museum, Chicago

Kenneth Reid, Idaho SHPO

Virginia Butler, Portland State University

Amy Commendador, Idaho Museum of Natural History

John Ericson, University of California, Irvine

Julie Field, Ohio State University

Christopher Roos, Southern Methodist University

Kristina Killgrove, University of West Florida

Tim Reith, International Archaeology Research  
Institute, Inc., Honolulu, Hawai'i

Lisa Matisoo-Smith, University of Otago, New Zealand

Cecil Lewis and Christina Warriner, University of  
Oklahoma

Richard Hansen, (FARES), Guatemala

Christopher Stevenson, Virginia Department of Historic  
Resources

Khachatur Meliksetian, Institute of Geological Sciences,  
National Academy of Sciences, Republic of Armenia