

RICHARD E.W. BERL

Ph.D. in Conservation Social Science

Human Dimensions of Natural Resources
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RESEARCH INTERESTS

I am an evolutionary social scientist with a background in behavior and cultural change and a passion for conserving biocultural diversity and improving social good and environmental sustainability. Past and present projects include: determining the effects of cognitive biases on cultural transmission and the dynamics of cultural evolution, specifically the influence of prestige in determining what and from whom people choose to learn, and how the concept of prestige varies across cultures; improving reforestation efforts on Pine Ridge Reservation through the use of the Lean Six Sigma methodology and the application of machine learning techniques, ensuring long-term survival of seedlings under future conditions of climate change; illuminating the genetic, demographic, cultural, and linguistic history of the Chabu, an isolated and threatened group of hunter-gatherers in southwestern Ethiopia, and using these data to advocate for their rights and sovereignty; investigating differences in the use of the social learning mechanisms of imitation and emulation between young children in Western cultures and in non-Western hunter-gatherers and horticulturalists in the Central African Republic; and describing variation in the social behavior of gray wolves (*Canis lupus*) between captivity and the wild, as well as their potential for social learning and cultural variation in behavior. Through the use of a data-centric scientific approach informed by statistics and by theory from social science on how we learn and how culture evolves, my career combines my expertise in data science and social science to address issues that involve complex interactions between humans, society, and the environment.

EDUCATION

Ph.D. Human Dimensions of Natural Resources	2019
Graduate Certificate in Applied Statistics	2017
Colorado State University, Fort Collins, CO	
M.S. Zoology	2015
Washington State University, Pullman, WA	
B.A. Biological Sciences, Honors	2009
B.A. Anthropology, Honors	2009
University of Delaware, Newark, DE	

RESEARCH EXPERIENCE

Co-Primary Investigator, "The Effects of Migration, Demographic Processes, and Subsistence Changes in Southwestern Ethiopia" *2018-Present*

Oromiya, Gambella, and SNNP Regions, Ethiopia

Co-PIs: Dr. Barry Hewlett, Washington State University Vancouver and

Dr. Brenna Henn, University of California Davis

Co-Investigator, "The Effects of Social Transmission Biases on Human Cultural Evolution" *2015-2019*

Colorado State University, Fort Collins, CO and University of Bristol, United Kingdom

PIs: Dr. Michael Gavin, Colorado State University and Dr. Fiona Jordan, University of Bristol

Co-Investigator: Alarna Samarasinghe, University of Bristol

Co-Primary Investigator, "Demography, Subsistence, Culture, and Genetic Variation of the Chabu Hunter-Gatherers of Southwest Ethiopia" *2013-Present*

Oromiya, Gambella, and SNNP Regions, Ethiopia

Co-PIs: Dr. Barry Hewlett and Dr. Bonnie Hewlett, Washington

State University Vancouver, Dr. Samuel Dira, University of West Florida

Collaborators: Dr. Marcus Feldman, Stanford University, Dr. Brenna Henn,

University of California Davis, Shyamalika Goplan, Stony Brook University,

Christopher Gignoux, University of Colorado Anschutz Medical Campus

Co-Primary Investigator, "Overimitation in the Aka and Ngandu of the Congo Basin" *2012-2015*

Bagandou, Central African Republic

Co-PI: Dr. Barry Hewlett, Washington State University Vancouver

Primary Investigator, "Comparative Social Behavior of Gray Wolves (*Canis lupus*) in Captivity and the Wild" *2012-2015*

Wolf Park, Battle Ground, IN and Yellowstone National Park

Research Assistant, Charles R. Conner Vertebrate Museum *2011-2012, 2013, 2014*

Washington State University, Pullman, WA

PIs: Dr. Larry Hufford and Dr. Kelly Cassidy, Washington State University

Field Assistant, Lomas Barbudal Monkey Project *2009-2010*

Reserva Biológica Lomas Barbudal, Guanacaste, Costa Rica

PI: Dr. Susan Perry, University of California Los Angeles

TEACHING EXPERIENCE

Adjunct Professor, Applied Statistical Computing with R *Spring 2019*

Human Dimensions of Natural Resources, Colorado State University

Teaching Assistant, General Biology *Spring 2015*

School of Biological Sciences, Washington State University

Teaching Assistant, General Ecology *Fall 2014*

School of Biological Sciences, Washington State University

PUBLICATIONS

Berl, R.E.W. & Gavin, M.C. (*in prep.*). A unified framework of prestige: Bridging concepts from theory, experiment, and cross-cultural research.

Berl, R.E.W.*, Samarasinghe, A.N.*, Roberts, S.G., Jordan, F.M., & Gavin, M.C. (*in prep.*). Prestige and content biases in the experimental transmission of narratives.

Samarasinghe, A.N., **Berl, R.E.W.**, Gavin, M.C., & Jordan, F.M. (*in prep.*). Regional accents of speech as a proxy for prestige in studies of cultural transmission and evolution.

Gopalan, S.*, **Berl, R.E.W.***, Belbin, G., Kaewert, S., Bustamante, C.D., Gignoux, C.R., Feldman, M.W., Hewlett, B.S., & Henn, B.M. (*in review*). Genomic data reveals diverse recent demographic histories in African hunter-gatherers. Preprint: bioRxiv, 517730. doi: 10.1101/517730

Berl, R.E.W., Samarasinghe, A.N., Jordan, F.M., & Gavin, M.C. (*in review*). The Position-Reputation-Information (PRI) scale of individual prestige.

Berl, R.E.W. & Hewlett, B.S. 2015. Cultural variation in the use of overimitation by the Aka and Ngandu of the Congo Basin. *PLOS ONE* 10(3): e0120180. doi: 10.1371/journal.pone.0120180

*Co-first authors

NON-PEER REVIEWED PUBLICATIONS

Hewlett, B.S., **Berl, R.E.W.**, & Roulette, C.J. 2016. Teaching and overimitation among Aka hunter-gatherers. In: Terashima, H. & Hewlett, B.S., editors. *Social learning and innovation in contemporary hunter-gatherers*. Springer. pp. 35–45. doi: 10.1007/978-4-431-55997-9_3

Berl, R.E.W. 2015. On the value of conserving human cultural diversity. *Northwest Science* 89(1): 100-101. doi: 10.3955/046.089.0110

INVITED TALKS

Berl, R.E.W. "Sociality and culture in gray wolves and humans." Sep 27, 2013
Morrison Institute for Population and Resource Studies, Stanford University,
Stanford, CA

Berl, R.E.W. "Social inheritance and the evolution of culture." June 27, 2012
Wolf Park, Battle Ground, IN

PRESENTATIONS

Berl, R.E.W., Samarasinghe, A.N., Roberts, S.G., Jordan, F.M., & Gavin, M.C. Oct 24, 2018
"Tell me a story: Comparing the effects of prestige and content biases on cultural transmission." (Podium)
Second Meeting of the Cultural Evolution Society, Tempe, AZ

Berl, R.E.W. , Gopalan, S., Belbin, G.M., Gignoux, C.R., Feldman, M.W., Henn, B.M., & Hewlett, B.S. "Demographic and cultural history of the Chabu hunter-gatherers of southwestern Ethiopia." (Podium) Second Meeting of the Cultural Evolution Society, Tempe, AZ	<i>Oct 23, 2018</i>
Gopalan, S., Berl, R.E.W. , Gignoux, C., Feldman, M.W., Hewlett, B.S., & Henn, B.M. "Characterizing an ongoing agricultural transition in southwest Ethiopia using genetic data." (Podium) 12 th International Conference on Hunting and Gathering Societies, Penang, Malaysia	<i>July 24, 2018</i>
Gopalan, S., Henn, B., Hewlett, B.S., & Berl, R.E.W. "Understanding agricultural transitions in southwest Ethiopia using genetic data." (Podium) 24 th Biennial Conference of the Society of Africanist Archaeologists, Toronto, ON, Canada	<i>June 20, 2018</i>
Berl, R.E.W. "The universe is made of stories." (Podium) Vice President for Research Fellowship Three Minute Challenge, Colorado State University, Fort Collins, CO	<i>Feb 12, 2018</i>
Berl, R.E.W. , Samarasinghe, A.N., Jordan, F.M., & Gavin, M.C. "What is said is more important than who says it: An experimental study of content and prestige biases in social learning." (Poster) Graduate Student Showcase, Colorado State University, Fort Collins, CO	<i>Nov 2, 2017</i>
Berl, R.E.W. , Samarasinghe, A.N., Jordan, F.M., & Gavin, M.C. "Toward a unified framework of prestige." (Podium) Inaugural Meeting of the Cultural Evolution Society, Max Planck Institute for the Science of Human History, Jena, Germany	<i>Sep 13, 2017</i>
Berl, R.E.W. "Cultural evolution and genome-culture coevolution." & "Prestige and cultural transmission." (Podium) GAUSSI Program Meeting, Colorado State University, Fort Collins, CO	<i>Sep 23, 2016</i>
Berl, R.E.W. , Samarasinghe, A.N., Jordan, F.M., & Gavin, M.C. "Prestige of regional accents and effects on cultural transmission." (Poster) 28 th Annual Meeting of the Human Behavior and Evolution Society, Vancouver, BC, Canada	<i>May 30, 2016</i>
Berl, R.E.W. "Cultural variation in the use of overimitation by the Aka and Ngandu of the Congo Basin." (Podium) School of Biological Sciences BioLunch Seminar, Pullman, WA	<i>Sep 15, 2015</i>
Berl, R.E.W. & Hewlett, B.S. "Cultural variation in the use of overimitation by the Aka and Ngandu of the Congo Basin." (Podium) Biennial Meeting of the Society for Research in Child Development, Philadelphia, PA	<i>Mar 21, 2015</i>
Adams, A.F., Poznik, G.D., Berl, R.E.W. , Hammond, N.A., Mendez, F.L., Cornejo, O.E., Napel, M., Schertler, M., Underhill, P.A., Feldman, M.W., & Bustamante, C.D. "High-coverage sequencing of diverse Y chromosomes via in-solution capture." (Poster) 64 th Annual Meeting of the American Society of Human Genetics, San Diego, CA	<i>Oct 19, 2014</i>

Berl, R.E.W. "Social behavior of gray wolves (<i>Canis lupus</i>) in captivity and the wild." (Poster) 51 st Annual Conference of the Animal Behavior Society, Princeton, NJ	<i>Aug 11, 2014</i>
Berl, R.E.W. "Social behavior of gray wolves (<i>Canis lupus</i>) in captivity and the wild." (Poster) 6 th Biennial Meeting of EVO-WIBO: Evolutionary Biology in the Pacific Northwest, Port Townsend, WA	<i>Apr 26, 2014</i>
Berl, R.E.W. & Hewlett, B.S. "Overimitation in the Aka and Ngandu of the Congo Basin." (Podium) 83 rd Annual Meeting of the American Association of Physical Anthropologists, Calgary, AB, Canada	<i>Apr 12, 2014</i>
Berl, R.E.W. "A group-level perspective in modeling social learning processes." (Poster) Washington State University Academic Showcase, Pullman, WA	<i>Mar 29, 2013</i>
Berl, R.E.W. "A group-level perspective in modeling social learning processes." (Poster) School of Biological Sciences Graduate Student Research Symposium, Pullman, WA	<i>Mar 1, 2013</i>
Berl, R.E.W. & Hewlett, B.S. "Overimitation in the Aka and Ngandu of the Congo Basin." (Podium) School of Biological Sciences Graduate Student Research Symposium, Pullman, WA	<i>Mar 1, 2013</i>
Berl, R.E.W. "A group-level perspective in modeling social learning processes." (Poster) Dr. William R. Wiley Research Exposition, Pullman, WA	<i>Feb 1, 2013</i>
Berl, R.E.W. & Hewlett, B.S. "Overimitation in the Aka and Ngandu of the Congo Basin." (Podium) Dr. William R. Wiley Research Exposition, Pullman, WA	<i>Feb 1, 2013</i>
Berl, R.E.W. "The role of adaptiveness in the evolution of social learning and culture." (Poster) School of Biological Sciences Graduate Student Research Symposium, Pullman, WA	<i>Mar 3, 2012</i>

GRANTS AND AWARDS

Populations Collaboration Grant (\$10,000 plus materials) 23andMe	<i>2018</i>
Graduate Student Showcase Finalist Office of the Vice President for Research, Colorado State University	<i>2017</i>
GAUSSI Traineeship NSF Research Traineeship in Generating, Analyzing, and Understanding Sensory and Sequencing Information, Colorado State University	<i>2016-2019</i>

Youth Athletic Facilities Grant, City of Colfax, WA (\$250,000) Washington State Recreation and Conservation Office	2015
William S. Pollitzer Student Travel Award American Association of Physical Anthropologists	2014
NWSA Student Research Grant (\$1,500) Northwest Scientific Association	2014
James R. King Fellowship in Zoology School of Biological Sciences, Washington State University	2014
Exploration Fund Award (\$2,500) The Explorers Club	2013
IPEM Research Fund Award (\$6,000) NSF IGERT Program in Evolutionary Modeling, Washington State University	2013
IPEM Graduate Fellowship NSF IGERT Program in Evolutionary Modeling, Washington State University	2012-2013
Carl H. Elling Award (\$8,000) School of Biological Sciences, Washington State University	2012-2014
NSF GRFP Honorable Mention NSF Graduate Research Fellowship Program	2012

TRAINING & WORKSHOPS

Quantitative Methods in Cultural Evolution Master Class Max Planck Institute for the Science of Human History, Jena, Germany	Sep 8-9, 2016
IBM Datapalooza Denver Sie FilmCenter, Denver, CO	May 19, 2016

PROFESSIONAL SERVICE

Seminar Coordinator, Frontiers of Conservation Social Science Seminar Series & Diversity and Inclusion in Conservation Seminar Series Human Dimensions of Natural Resources, Colorado State University	2015-2018
Seminar Coordinator, Biology Graduate Student Association School of Biological Sciences, Washington State University	2014-2015
Co-Founder, Palouse Interdisciplinary Graduate Society Washington State University & University of Idaho	2014
Chair, School of Biological Sciences Graduate Student Research Symposium School of Biological Sciences, Washington State University	2014
President, Biology Graduate Student Association School of Biological Sciences, Washington State University	2013-2014

Vice President, Biology Graduate Student Association 2012-2013
School of Biological Sciences, Washington State University

Organizer, School of Biological Sciences Graduate Student Research Symposium 2011-2014
School of Biological Sciences, Washington State University

Consultant
Trees, Water & People
National Geographic Magazine

Reviewer
Proceedings of the National Academy of Sciences
Behavioural Processes
Psychological Reports
PLOS ONE

Member
Cultural Evolution Society, Founding Member
Data for Democracy, Founding Member
The Explorers Club, Pacific Northwest & Rocky Mountain Chapters
American Association of Physical Anthropologists

SCIENCE OUTREACH & SERVICE

Volunteer Data Scientist 2018-Present
Trees, Water & People, Fort Collins, CO

Volunteer Educator, Skype a Scientist Program 2017
Steindorf STEAM School, San Jose, CA
Ray Miller Elementary, Kirksville, MO

Volunteer Educator, March for Science Denver 2017
Civic Center Park, Denver, CO

Logo Designer, March for Science Denver 2017
Civic Center Park, Denver, CO

Volunteer Educator, "Beasts Evolve!" Outreach Module 2017
Skyview Elementary School, Windsor, CO

Lead Developer, "Beasts Evolve!" Outreach Module 2017
NSF Research Traineeship in Generating, Analyzing, and Understanding
Sensory and Sequencing Information, Colorado State University

Parks and Recreation Coordinator 2015
City of Colfax, WA

Volunteer Educator, Biology Open House 2014
Washington State University, Pullman, WA

Volunteer Educator, Biology Family Science Saturday 2013
Palouse Discovery Science Center, Pullman, WA

Apartment Coordinator, Family and Graduate Housing Housing and Residence Life, Washington State University, Pullman, WA	<i>2013-2015</i>
Lead Organizer, Palouse Outdoor Science Day Virgil Phillips Farm Park, Moscow, ID	<i>2013-2015</i>
Exhibit Designer, Educational Exhibits for Young Visitors Charles R. Conner Vertebrate Museum, Washington State University, Pullman, WA	<i>2011-2012</i>
Biological Aide, Environmental Stewardship Program Delaware Division of Parks and Recreation, Dover, DE	<i>2011</i>
Guest Presenter, Classroom STEM Talks and Activities Wilmington Friends School, Wilmington, DE	<i>2010</i>
Volunteer, Environmental Education and Community Outreach Guanacaste, Costa Rica	<i>2009-2010</i>