Charles Perreault

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EDUCATION

2011	Ph.D., Anthropology, University of California, Los Angeles.
2007	M.Sc., Anthropology, Université de Montréal, Canada.
2004	B.Sc., Anthropology, Université de Montréal, Canada.

PROFESSIONAL APPOINTMENTS

2020–Present	Associate Professor, School of Human Evolution and Social Change, Arizona State University.
2026–Present	Associate Director, Institute of Human Origins, Arizona State University
2014–2020	Assistant Professor, School of Human Evolution and Social Change, Arizona State University.
2013–2014	Assistant Professor, Department of Anthropology, University of Missouri.
2011–2013	Omidyar Fellow, Santa Fe Institute, New Mexico.

AFFILIATIONS

2021–Present	IHO Research Scientist, Institute of Human Origins, Arizona State University.
2017–Present	Faculty Affiliate, Center for Archaeology and Society, Arizona State University.
2015–Present	Core Faculty, Center for Social Dynamics & Complexity, Arizona State University.
2017–Present	Associate, Coalition for Archaeological Synthesis.

PUBLICATIONS

Books

1. 2019. **Perreault C.** The Quality of the Archaeological Record, *The University of Chicago Press*.

Peer-Reviewed Journal Articles

26 2026. **Perreault, C.** Cultural evolution accelerated human range expansion by more than two orders of magnitude. *Proceedings of the National Academy of Sciences* 123 (11), e2523038124.

25. 2025. **Perreault, C.** A georeferenced ethnolinguistic map of Driver et al. Indian Tribes of North America (1953). *Journal of Open Archaeological Data*. 13(18), pp. 1–5. DOI: https://doi.org/10.5334/joad.185.

24 2024. Paige, J. **and Perreault, C.** 3.3. million years of stone tool complexity suggests that cumulative culture began during the Middle Pleistocene. *Proceedings of the National Academy of Sciences*. 121(26): e2319175121.

23 2023. **Perreault, C.** Archaeology after the loss of innocence. *Antiquity*, 97(396): 1369-1380. DOI: https://doi.org/10.15184/aqy.2023.168.

22 2023. Paige, J. and **Perreault, C**. A dataset describing the manufacturing of stone tools over 3 million years. *Journal of Open Archaeology Data*. 11(12): 10.5334/joad.114.

21 2023. Paige, J. and **Perreault, C.** How surprising are lithic reduction strategies? The information entropy of the Modes A-I framework. Journal of Lithic Technology. DOI: 10.1080/01977261.2022.2113699.

20. 2022. Shen, X., Z. Dongju, **C. Perreault,** Xia, H., Liu, Yishou, and Fahu, C. Exploitation of lyddite and jasper by Epipaleolithic foragers in the Northeastern Tibetan Plateau and surrounding regions. *Archaeological and Anthropological Sciences*, 14 (7): 1-16.

19. 2022. **Perreault, C.** and R. Boyd. Evolution of social learning with payoff and content bias. *Games*, 13 (7): https://doi.org/10.3390/g13010007.

18. 2020. Dongju Zhang, Huan Xia, Fahu Chen, Bo Li, Viviane Slon, Ting Cheng, Ruowei Yang, Zenobia Jacobs, Qingyan Dai, Diyendo Massilani, Xuke Shen, Jian Wang, Xiaotian Feng, Peng Cao, Melinda A Yang, Juanting Yao, Jishuai Yang, David B Madsen, Yuanyuan Han, Wanjing Ping, Feng Liu, **Charles Perreault**, Xiaoshan Chen, Matthias Meyer, Janet Kelso, Svante Pääbo, Qiaomei Fu. Denisovan DNA in Late Pleistocene sediments from Baishiya Karst Cave on the Tibetan Plateau. *Science*, 370 (6516): 584-587.

17. 2018. Derex, M., **C. Perreault**, and R. Boyd, Divide and conquer: intermediate levels of population fragmentation maximize cultural accumulation. *Philosophical Transactions B,* 373: 20170062*.*

16. 2018. **Perreault C.**, Time-averaging slows down rates of change in the archaeological record. *Journal of Archaeological Methods and Theory.* 25 (3): 953-964**.**

15. 2017. Madsen, D. B., **C. Perreault**, D. Rhode, Y. Sun, M. Yi, K. Brunson, P. J. Brantingham. Early foraging settlement of the Tibetan Plateau highlands. *Archaeological Research in Asia*, 11, 15-26.

14. 2016. Mathew, S. and **C. Perreault,** Cultural history, not ecological environment, is the main determinant of human behavior. *Proceedings of the Royal Society B*, 283: 20160177.

13. 2016. **Perreault, C.**, M. T. Boulanger, A. M. Hudson, D. Rhode, D. B. Madsen, J. W. Olsen, M. L. Steffen, J. Quade, M. D. Glascock, and P. J. Brantingham, Characterization of obsidian from the Tibetan Plateau by XRF and NAA. *Journal of Archaeological Science Reports*, 5: 392-399.

12. 2015. Mathew, S. and **C. Perreault**, Behavioural variation in 172 small-scale societies indicates that social learning is the main mode of human adaptation. *Proceedings of the Royal Society B*, 282: 20150061.

11. 2014. Rhode, D., P. J. Brantingham, **C. Perreault**, D. Madsen, Mind the gaps: testing for hiatuses in regional radiocarbon date sequences. *Journal of Archaeological Science*, 52: 567-577.

10. 2013. **Perreault, C.**, P. J. Brantingham, S. L. Kuhn, S. Wurz, G. Xing, Measuring the complexity of lithic technology. *Current Anthropology*, 54 (S8), S397-S406.

9. 2013. P. J. Brantingham, X. Gao, D. B. Madsen, D. Rhode, **C. Perreault**, J. Woerd, and J. Olsen, Late occupation of the high-elevation northern Tibetan Plateau based on cosmogenic, luminescence, and radiocarbon ages. *Geoarchaeology*, 28 (5): 413-431.

8. 2012. **Perreault, C.,** The pace of cultural evolution. *PLoS One*. 7(9): e45150.

7. 2012. **Perreault C.,** C. Moya and R. Boyd, A Bayesian approach to the evolution of social learning. *Evolution and Human Behavior*, 33(5): 449-459.

6. 2012. **C. Perreault** and S. Mathew., Dating the origin of language using phonemic diversity. *PLoS One*, 7(4): e35289.

5. 2012. Kandler, A., **C. Perreault** and J. Steele., Cultural evolution in spatially structured populations: A review of alternative modeling frameworks. *Advances in Complex Systems*, 15(1-2).

4. 2011. **Perreault C**.,The impact of site sample size on the reconstruction of culture-histories. *American Antiquity,* 76(3): 547-572.

3. 2010. **Perreault, C**. and P. J. Brantingham, Mobility-driven cultural transmission along the forager-collector continuum, *Journal of Anthropological Archaeology*, 30(1): 62-68.

2. 2010. Brantingham P. J. and **C. Perreault**. Detecting the effects of selection and stochastic forces in archaeological assemblages. *Journal of Archaeological Science*, 37(12): 3122-3225.

1. 2010. **Perreault, C.** A note on the reconstruction of animal social network from independent small group observations. *Animal Behaviour*, 80(3): 551-562.

Peer-Reviewed Commentaries

1. 2014. K. Panchanathan, S. Mathew, and **C. Perreault**, Explaining group-level traits requires distinguishing process from product *Behavioral and Brain Sciences*, 37(3): 269-270 [Invited comment].

RECENT FUNDING ACTIVITY

2026 *A Comparative Science of Cultural Macroevolution* (Perreault, C. PI)

President's Strategic Initiative Fund, ASU.

$75,000

2019 *Testing the Reliability of Stone Tools in Reconstructing Cultural Relationships in Prehistory* (Perreault, C., PI, *Jonathan Paige), Leaky Foundation. *Graduate student

$8,718

INVITED TALKS

2026 "The human range expansion in mammalian context: Insights from macro cultural evolution." Mathematical and Statistical Methods in Cultural Evolution workshop series, "Mathematical Prehistory of *Homo sapiens*: Modeling the Cultural Evolution during the Range Expansion of Paleolithic Modern Humans," Meiji University, Tokyo, Japan, December 7, 2026.

2026 "David Clark and the case of macroarchaeology." University of Cambridge, UK, October 10th 2026.

2025 **Keynote address,** "A macroarchaeology perspective to the stone tool record: Tracking long-term trends in complexity." Max Planck Institute of Geoanthropology, Jena, Germany, October 21st 2025.

2025 **Session keynote**, "Seeing is not understanding: Micro, meso and macro-level behavioral signals in taphonomic contexts." Session keynote. Kiel Conference. Kiel University, Germany, March 26th 2025.

2024 "3.3 million years of stone tool complexity suggests that cumulative culture began during the Middle Pleistocene." Aarhus University, Denmark, September 24th 2024.

2022 **Session keynote,** "Macroarchaeology: How can archaeology make novel and useful contributions?" 28th European Association of Archaeologists Annual Meeting, Budapest, Hungary, September 3rd 2022.

2022 "Macroarchaeology: How can archaeology make novel and useful contributions?" University of Cambridge, UK, January 28th.

2018 "When did our capacity for cumulative culture evolve?" College of Earth Environmental Sciences, Lanzhou University, China, June 30th.

2013 "The origins of social learning." Evolutionary studies at the University of Missouri, October 29th.

2012 "Why is culture adaptive?" IGERT Program in Evolutionary Modeling Seminar Series. Washington State University-Pullman. September 27th.

2012 "The origins of cumulative culture." Wenner-Gren Symposium #145 on "Alternative Pathways to Complexity: Evolutionary Trajectories in the Middle Paleolithic and Middle Stone Age, Stockholm, Sweden. June 5th.

2012 "The ecological and cultural determinants of human behavior." Behavioral Sciences Discussion Group, Santa Fe Institute. February 22nd.

2011 "The pace of cultural evolution." Behavior, Evolution, and Culture Speaker Series, UCLA. May 23rd.

CONFERENCE ACTIVITY

2024 Huang, C. H., Paige, J. and C. Perreault (Chairs) Symposium. Big ideas to match our future: Big data and macroarchaeology. 89th Annual Meeting of the Society of American Archaeology, New Orleans, LA, April 20th 2024.

2024 Paige, J. and C. Perreault. Developing a macro-archaeological infrastructure to help assess the relationship between hominin technological and biological change. 93rd Annual Meeting of the American Association of Biological Anthropologists. Los Angeles, CA, March, 22nd 2024.

2023 Paige, J. and C. Perreault. How surprising are contents of lithic assemblages? The information entropy of the stoneworking Modes A-I framework. 92nd Annual Meeting of the American Association of Biological Anthropologists, Portland, OR, March 28th.

2023 Paige, J. and C. Perreault, Are changes in Rates of Technological Change Robust to Error? A paired Bayesian and simulation approach to assessing the Pleistocene record. 8*8th Annual Meeting of the Society for American Archaeology*, Portland, OR, March 31st.

2022 Paige, J. and C. Perreault, The evolution of cumulative culture in the hominin lineage. *91st Annual Meeting of the American Association of Biological Anthropologists*, Denver, CO, March 26th.

2022 Paige, J. and C. Perreault, Evaluating the reliability of lithic technology for detecting prehistoric migrations. *Annual Paleoanthropology Society Meeting*, Denver, CO, March 23rd.

2019 Perreault C., A macroarchaeology approach: how can archaeology make novel and useful contributions to evolutionary theory?, *84th Annual Meeting of the Society for American Archaeology*, Albuquerque, NM, April 12th.

2019 *Paige, J., *Dytchkowskyj, D. and C. Perreault, Measuring the complexity of stone tool technologies from the Lower Paleolithic through the Late Holocene, *84th Annual Meeting of the Society for American Archaeology*, Albuquerque, NM, April 12th.

2018 *Paige, J., and C. Perreault, Were early stone tool technologies genetically transmitted? Comparing passerine nests and Acheulean handaxes, 2nd Cultural Evolution Society Conference, Tempe AZ, October 22nd.

2018 *Paige, J., *Dytchkowskyj, D. and C. Perreault, Measuring the complexity of stone tool technologies from the Lower Paleolithic through the Late Holocene, 2nd Cultural Evolution Society Conference, Tempe AZ, October 22nd.

2018 *Paige, J., and C. Perreault, Was Acheulean technology genetically constrained? Comparing variation in Acheulean tools to variation in North American bird nests, *83rd Annual Meeting of the Society for American Archaeology*, Washington DC, April 13th.

2017 Madsen, D., P. J. Brantingham, Yongjuan S., Rhode, D., Mingjie, Y., and C. Perreault, Reconstructing the initial human occupation of the Northern Tibetan Plateau, *European Geosciences Union General Assembly 2017*, Vienna, Austria, April 25th.

2017 **Miltimore, D., *Paige, J., and C. Perreault, Comparing traditional and photogrammetric 3D model-based measurements of lithic artifacts, *82nd Annual Meeting of the Society for American Archaeology*, Vancouver, Canada, March 30th.

2017 *Paige, J., and C. Perreault, Assessing likelihood of convergence in flake attributes, *Paleoanthropology Society 2017 Annual Meeting*, Vancouver, Canada, March 28th.

2016 Hudson, A. M., Olsen, J. W., Quade, J., Lei, G., Huth, T., Zhang, H, C. Perreault, Wetlands sediment record from the upper Yarlung Tsangpo valley, southwest Tibetan Plateau, reveals mid-Holocene Epipaleolithic human occupation coincident with increased early and mid-Holocene wetness driven by enhanced Indian Monsoon rainfall, *American Geophysical Union Fall Meeting, San Francisco, December 13th*.

2016 P. J. Brantingham and C. Perreault, Where is the evidence for selection? Climate change and the colonization of the Northern Tibetan Plateau, *81st Annual Meeting of the Society for American Archaeology*, Orlando, April 7th.

2015 Perreault, C., Measuring the complexity of lithic technology. 80th Annual Meeting of the Society for American Archaeology, San Francisco, April 17th.

2013 Perreault, C., The scale of the archaeological record and the origins of social complexity. 112th Annual Meeting of the American Anthropological Association, Chicago, November 21st.

2012 Perreault, C., The pace of cultural evolution, 78th Annual Meeting of the Society for American Archaeology, Honolulu, April 17th.

2011 Perreault, C., The pace of technological evolution. Annual Archaeology Graduate Student Conference, Fowler Museum, UCLA. February 19th.

2010 Rhode, D., Madsen, D., Brantingham, P. J., and C. Perreault, Early Human occupation on the northeast Tibetan Plateau (Rhode, D., Madsen, D., Brantingham, P. J). *American Geophysical Union Fall Meeting*, San Francisco. December 16th.

2010 Perreault, C., Cultural evolution is faster than biological evolution. 109th Annual Meeting of the American Anthropological Association, New Orleans. November 18th.

Perreault, C., Mobility topology and cultural transmission: Exploring the forager – collector continuum. 73rd Annual Meeting of the Society for American Archaeology, Vancouver, Canada. March 28th.

PUBLIC IMPACT AND ENGAGEMENT

Media Coverage of Research

July 2026	PNAS article on cultural evolution and human range expansion received international media coverage, including a one-page feature in *Scientific American* print, *The Hindu* India, EurekAlert!/AAAS, and Ukrainian Independent Information Agency.
June 2024	*PNAS* article on stone tool complexity received broad international media coverage in 37 outlets, including *Scientific American* June 2024 issue, *Ars Technica*, major national newspapers and news agencies such as *El País* Spain, *Haaretz* Israel, *Der Standard* Austria, and ANSA Italy, and science-news outlets including EurekAlert!/AAAS, ScienceDaily, and Phys.org.
November 2020	Science article on Denisovan in Tibet received broad international media coverage in more than 60 outlets, including *Scientific American*, *National Geographic*, *CNN*, *New Scientist*, *Business Insider*, *The Conversation*, *Sydney Morning Herald*, *The Age*, *Spektrum*, and *Sciences et Avenir*. Interviews about the findings appeared in *Superinteressante Brazil*, a major Brazilian popular science magazine, and on KJZZ Phoenix, NPR member station.
June 2015	*Proceedings B* article on social learning as the main mode of human adaptation received science-news coverage in Phys.org.

Expert Commentary and Interviews

September 2026	Featured expert commentary on cultural evolution and gene-culture coevolution in Brigida D'Agostino, "Optimized Offspring," *Noema Magazine*, September 1, 2026.
September 2026	Independent expert commentary, Live Science.
July 2025	Independent expert commentary, ABC Spain, a leading national newspaper
January 2020	Featured expert commentary *Inside Science.*
January 2020	Featured expert commentary, WIRED.
May 2012	Interview, *Les Samedis du Monde*, Radio-Canada, Canadian public broadcaster.

Public Outreach and Community Engagement

Sep. 2024	Public lecture, “Technological evolution: How humans adapt to their environment,” Lucy 50 Monthly Lecture Series, Institute of Human Origins; available online.
Spring 2023	Educational encyclopedia article, “Denisovan DNA,” *Becoming Human*, Institute of Human Origins human-evolution education website.
Fall 2012-Spring 2013	STEM mentor, Santa Fe MASTERS Program High School; mentored four students.

RESEARCH EXPERIENCE

2018	Tibet Research Group, Lanzhou University (PI Fahu Chen) Contribution: Scientific advisor
2016–Present	Human Origins in Northeast Asia Project (PI)
2007–2016	Tibet Paleolithic Project, Tibet, China (PI P. Jeffrey Brantingham)
2011–2014	Universal Patterns in the Emergence of Complex Societies, John Templeton Foundation Grant, Santa Fe Institute (PI Jeremy A. Sabloff)
2007–2010	Joint Mongolian-Russian-American Archaeological Expeditions, Mongolia (PI John Olsen)

TEACHING

Arizona State University

ASB 591 – The Quality of the Archaeological Record (graduate seminar)
ASM 591 – Professionalism II (graduate seminar)
ASB 222 – Buried Cities and Lost Tribes
ASM 246 – Human Origins

University of Missouri

World Archaeology
Fundamentals of Archaeology

ASU GRADUATE MENTORING

Primary Mentor

2022—Present	Pietro Beltrame
2018–2026	Cindy Hsin-yee Huang
2016–2021	Deanna Dytchkowskyj
2015–2022	Jonathan Paige
2014–2015	Lisa Phan

TEACHING AWARDS

2020	Excellence in Undergraduate Teaching Award in the School of Human Evolution and Social Change
2018	Nominated for Outstanding Doctoral Mentor Award, ASU Graduate College
2016	Excellence in Teaching Award in the School of Human Evolution and Social Change

SELECTED PROFESSIONAL SERVICE

Spring 2019–Spring 2022	Member of the Minority Scholarships Committee of the Society for American Archaeology
Fall 2017–Fall 2018	Organizing Committee, Cultural Evolution Society Conference 2018
Spring 2015	Scientific Committee, The Cultural Evolution of Technology Workshop, Conference on Complex Systems 2015

SELECTED JOURNAL AND GRANT REVIEWING

American Antiquity; Antiquity; Biological Theory; Evolution and Human Behavior; Journal of Archaeological Method and Theory; Journal of Archaeological Science; Journal of Human Evolution; Nature Human Behaviour; Proceedings of the Royal Society B; Science Advances; Scientific Reports; Leverhulme Trust; Leakey Foundation.