



# MARCUS JOHN HAMILTON, B.Sc., M.S., Ph.D.

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## CONTACT

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Homepage: <http://www.unm.edu/~marcusj/home.htm>  
Nationality: U.K. citizen; U.S. permanent resident

## Research Areas

Ecological and evolutionary anthropology; anthropological archaeology; theoretical ecology; macroecology; biogeography.

## PROFESSIONAL HISTORY

2010-present Postdoctoral Fellow, Santa Fe Institute.  
2008-present Adjunct Assistant Professor of Anthropology, University of New Mexico.  
2009-2011 Postdoctoral Fellow, Department of Biology, University of New Mexico.

## ACADEMIC HISTORY

2008 Ph.D. with Distinction, Anthropology, University of New Mexico.  
2002 M.S. with Distinction, Anthropology, University of New Mexico.  
1998 B.Sc. with 1st Class Hons and *Hodson* dissertation award, Archaeology, University College London.

## FELLOWSHIPS AND FUNDING (~\$270,000)

In Review National Science Foundation (Cultural Anthropology/MMS). *The Evolutionary Scale of Global Cultural Diversity and its Endangerment* (~\$390k). PI. **M.J. Hamilton**.

2013 [www.rockethub.com/SciFund](http://www.rockethub.com/SciFund) online crowd-funding campaign, *Shrinking Horizons*. ~\$3,000. PI. **M.J. Hamilton**.

2012 National Geographic Society Research and Exploration Grant, *Population Dynamics of Recently Contacted and Isolated Indigenous Populations in the Brazilian Amazon*. \$19,900 (PIs: R.S. Walker, D. Kesler, and **M.J. Hamilton**).

2010-present *Postdoc* in the *SFI scaling group* funded by the James S. McDonnell Foundation (grant no. 220020195), the National Science Foundation (grant no. 103522), The Boeing Company (purchase contract no. 525993), the John Templeton Foundation (grant no. 15705) and by a generous gift of the Bryan J. and June B. Zwan Foundation: \$55,000/yr, \$5,000 expenses/yr+ benefits.

2009-2011 *NSF Research Collaboration Network grant* DEB 0541625 (PI's F.A. Smith, S.K. Lyons, and M. Ernest): *Integrative Macroecological Pattern and Process Across Scales* (IMPPS), \$34,000 yr + benefits.

2009 Teaching supplement: *Howard Hughes Medical Institute grant* 1T32EB009414-01 (PI's J.H. Brown and F.A. Smith), \$2,000.

2008 *Program for Interdisciplinary Biological and Biomedical Sciences* travel grant, Department of Biology, University of New Mexico, \$1,000.

2007 Arizona Archaeological and Historical Society research grant, \$250.

2005-2006 *NSF Fellowship in Ecological Complexity*, Biocomplexity grant DEB 0083422 (PI's J.H. Brown, B.T. Milne, and G.B. West), \$15,000/yr + tuition.

2004-2005 *Hibben Foundation Senior Graduate Fellowship*, Department of Anthropology, University of New Mexico, \$15,000/yr + tuition.

2005 Student Research Allocation Committee grant, University of New Mexico, \$340.

2004 Student Research Allocation Committee grant, University of New Mexico, \$500.

2000-2003 *Lewis R. Binford Graduate Fellowship*, Department of Anthropology, University of New Mexico, \$10,000 yr + tuition.

2001 *Tinker Foundation* field research grant, Latin American and Iberian Institute, University of New Mexico, \$1,500.

1996 Undergraduate Field Research Grant, Institute of Archaeology, University College London, \$1,500.

1995 Undergraduate Field Research Grant, Institute of Archaeology, University College London, \$1,500.

## **PUBLICATIONS (41 papers in Google Scholar; h-index =14; total citations = 705. Dec, 2013)**

### **Manuscripts in Progress**

1. Buchanan, B., **M.J. Hamilton**, and J.D. Kilby. (in prep.). Clovis raw material networks and regionalization.
2. **Hamilton, M.J.** (In prep). The energetics of hunter-gatherer residential mobility. *Evolutionary Anthropology Special Issue*.
3. **Hamilton, M.J.**, B. Buchanan, and R.S. Walker. (in prep.). The modularity of hunter-gatherer camps.
4. Walker, R.S., M. Boulanger, D. Kesler, and **M.J. Hamilton** (in prep.). Ecology and phylogeny of endangerment status for the world's languages.
5. **Hamilton, M.J.** (in prep.). The diversity of nations.

### **Papers in Review**

1. Daepf, M., **M.J. Hamilton**, L.M.A. Bettencourt, and G.B. West (in review). The mortality of publicly-traded companies. *PNAS*.
2. **Hamilton, M.J.**, J. Zhiang, J., L.M.A. Bettencourt, and G.B. West (in review). The allometry and growth of markets. *PNAS*.
3. Stephens, P. R. J.H. Brown, A. Boyer, T. Dyan, M. Fortaleus, **M.J. Hamilton**, L.E. Harding, K. Lintulaakso, S.K. Lyons, C. McCain, J.G. Okie, J.J. Saarinen, R.M. Sibly, J. Theodor, and M.D. Uhen (in review).

Understanding the relationship between evolutionary rate and phylogenetic signal: the K/Pg extinction event as a natural experiment in mammalian body size evolution. *PLoS ONE*.

4. Uhen, M., A.G. Boyer, J.H. Brown, D.P. Costa, S.K.M. Ernest, A.R. Evans, M. Fortelius, J.L. Gittleman, **M.J. Hamilton**, L.E. Harding, K. Lintulaakso, S.K. Lyons, J.G. Okie, J. Saarinen, F.A. Smith, P.R. Stephens, J. Theodor, M.D. Uhen, R.M. Sibly (in review). The trajectory of marine mammal body mass over the Cenozoic. *Science*.

## Published Papers

### *Archaeology and Anthropology*

1. Walker, R.S. and **M.J. Hamilton** (accepted). Human societies on the brink of extinction. *American Journal of Physical Anthropology*.
2. **Hamilton, M.J.**, R.S. Walker, and D. Kesler (accepted). The crash and rebound of indigenous populations in lowland South America. *Scientific Reports*.
3. **Hamilton, M.J.**, B. Buchanan, B. Huckell, V.T. Holliday, M. Steven Shackley, and M.E. Hill (2013). Clovis paleoecology and lithic technology in the central Rio Grande Rift Valley of New Mexico. *American Antiquity* **78(2)**: 248-265.
4. **Hamilton, M.J.** Commentary on “Networking Past and Present”, by R.I.M. Dunbar (2013). *Cliodynamics* **3(2)**: 352-353.
5. Nekola, J., Brown, J.H., J.R. Burger, A.D. Davidson, T. Fristoe, **M.J. Hamilton**, N. Mercado Silva, , and J. Okie (2013). The Malthusian-Darwinian dynamic and human society. *Trends in Evolution and Ecology* **28(3)**: 127-130.
6. Bailey, D.H., **M.J. Hamilton**, and R.S. Walker (2012). Latitude, population size, and the language-farming dispersal hypothesis. *Evolutionary Ecology Research* **14**: 1057-1067.
7. **Hamilton, M.J.**, O. Burger, and R.S. Walker (2012). Human Ecology. In: Brown, J.H., R.M. Sibly, and A. Kodric-Brown, (eds.) *Metabolic Ecology: A Scaling Approach*. Oxford: Wiley-Blackwell, pp 235-247.
8. Burger, O., J.P. DeLong, and **M.J. Hamilton** (2011). Industrial energy use and the human life history. *Scientific Reports* **1(56)**: DOI:10.1038/srep00056.
9. Buchanan, B., **M.J. Hamilton**, K. Edinborough, M.J. O’Brien, and M. Collard (2011). Response to Steele (2010), “Radiocarbon dates as data: quantitative strategies for estimating colonization front speeds and event densities”. *Journal of Archaeological Science* **38**: 2116-2122.
10. Walker, R.S. and **M.J. Hamilton** (2011). The dynamics of social complexity and linguistic diversity in the Bantu and Austronesian population expansions. *Proceedings of the Royal Society: Biological Sciences* **278**: 1399-1404.
11. Buchanan, B., M. Collard, **M.J. Hamilton**, and M. O’Brien (2011). Points and prey: An evaluation of the hypothesis that early Paleoindian projectile point form correlates with prey size. *Journal of Archaeological Science* **38**: 852-864.

12. **Hamilton, M.J.** and B. Buchanan (2010). Archaeological support for the three-stage expansion of modern humans across northeastern Eurasia and into the Americas. *PLoS ONE* **5(8)**: e12472 (Editor's Choice in *Science* 23/9/2010).
13. Collard, M., B. Buchanan, **M.J. Hamilton**, and M. O'Brien (2010). Spatiotemporal dynamics of the Clovis-Folsom transition. *Journal of Archaeological Science* **37**: 2513-2519.
14. Smith, F.A., **M.J., Hamilton**, and J.H. Brown (2010). On the size-selectivity of late Pleistocene megafaunal extinctions. *Evolutionary Ecology Research* **12**: 405-407.
15. Burger, O., R.S. Walker, and **M.J. Hamilton** (2010). Lifetime reproductive effort in humans. *Proceedings of the Royal Society B: Biological Sciences* **277(1682)**: 773-777.
16. **Hamilton, M.J.** and B. Buchanan (2009). Archaeological and paleobiological problems with the case for the Younger Dryas extraterrestrial impact event. *Journal of Cosmology* **2**: 415-417.
17. **Hamilton, M.J.**, B.B. Huckell, and M.S. Shackley (2009). Clovis obsidian sources in the central Rio Grande Rift region of New Mexico. *Current Research in the Pleistocene* **26**: 62-65.
18. **Hamilton, M.J.**, O. Burger, J. DeLong, R.S. Walker, M.E. Moses, and J.H. Brown (2009). Population stability, cooperation, and the invasibility of the human species. *Proceedings of the National Academy of Sciences, USA* **106(30)**: 12255-12260.
19. Buchanan, B. and **M.J. Hamilton** (2009). A formal test of the origin of variation in North American Early Paleoindian points. *American Antiquity* **74(2)**: 279-298.
20. Holliday, V.T., B.B. Huckell, R.H. Weber, **M.J. Hamilton**, W.R. Reitze, and J.H. Mayer (2009). Geoarchaeology of the Mockingbird Gap (Clovis) Site, Jornada del Muerto, New Mexico. *Geoarchaeology* **24(3)**: 348-370.
21. **Hamilton, M.J.** and B. Buchanan (2009). The accumulation of stochastic copying errors causes drift in culturally transmitted technologies. *Journal of Anthropological Archaeology* **28**: 55-69.
22. Walker, R.S., M. Gurven, O. Burger, and **M.J. Hamilton** (2008). The trade-off between number and size of offspring in humans and other primates. *Proceedings of the Royal Society B: Biological Sciences* **275(1636)**: 827-833.
23. Walker, R.S. and **M.J. Hamilton** (2008). Life history consequences of density-dependence and the evolution of human body size. *Current Anthropology* **49(1)**: 115-122.
24. Huckell, B.B., V.T. Holliday, **M.J. Hamilton**, C. Sinkovec, C. Merriman, M. S. Shackley, and R.H. Weber (2008). The Mockingbird Gap Clovis Site: 2007 investigations. *Current Research in the Pleistocene* **25**: 95-97.
25. **Hamilton, M.J.** and B. Buchanan (2007). Spatial gradients in Clovis-age radiocarbon dates across North America suggest rapid colonization from the north. *Proceedings of the National Academy of Sciences, USA* **104(40)**: 15629-15634.
26. **Hamilton, M.J.**, B.T. Milne, R.S. Walker, O. Burger, and J.H. Brown (2007). The complex structure of hunter-gatherer social networks. *Proceedings of the Royal Society B: Biological Sciences* **274 (1622)**: 2195-2202.

27. **Hamilton, M.J.**, B.T. Milne, R.S. Walker and J.H. Brown (2007). Nonlinear scaling of space use in human hunter-gatherers. *Proceedings of the National Academy of Sciences, USA* **104(11)**: 4765-4769.
28. Burger, O., **M.J. Hamilton**, and R.S. Walker (2005). The prey as patch model: Optimal handling of resources with diminishing returns. *Journal of Archaeological Science* **32(8)**: 1147-1158.
29. Huckell, B.B., J.D. Kilby, and **M.J. Hamilton** (2003). 2002 excavations at Boca Negra Folsom site, north-central New Mexico. *Current Research in the Pleistocene* **20**: 33-34.
30. Huckell, B.B., J.D. Kilby, B. Buchanan, **M.J. Hamilton** and S. Ruth (2002). 2001 excavations at Boca Negra Folsom site, north-central New Mexico. *Current Research in the Pleistocene* **19**: 39-40.

### ***Economics, Politics, and Sustainability***

31. Andris, C., D. Lee, C.E. Gunning, J.A. Selden, and **M.J. Hamilton** (2013). The rise of partisanship in the U.S. House of Representatives. *Santa Fe Institute Working Paper*.
32. Brown, J.H., J.R. Burger, W.R. Burnside, M. Changa, A.D. Davidson, T.S. Fristoea, **M.J. Hamilton**, S.T. Hammond, A. Kodric-Brown, N. Mercado-Silva, J.C. Nekola, J.G. Okie (In press). Macroecology meets macroeconomics: Resource scarcity and global sustainability. *Ecological Engineering*.
33. DeLong, J.P., O. Burger, and **M.J. Hamilton** (2013). The UN medium population projection is an unstable equilibrium. *Frontiers in Ecology and the Environment* **11(2)**: 66-67.
34. Burger, J.R., C. Allen, J.H. Brown, A.D. Davidson, T. Fristoe, **M.J. Hamilton**, N. Mercado Silva, J. Nekola, J. Okie, and W. Zuo (2012). The macroecology of sustainability. *PLoS Biology* 10(6) e1001345.
35. **Hamilton, M.J.**, L.M.A. Bettencourt, and G.B. West (2012). Scale, productivity, and life-expectancy of publicly traded companies in US markets, 1950-2009. *Santa Fe Institute Working Paper*.
36. Brown, J.H., W. Burnside, A.D. Davidson, J.P. DeLong, **M.J. Hamilton**, N. Mercado Silva, J. Okie, W. Woodruff, and W. Zuo (2011). Ecological limits to economic growth. *BioScience* **61(1)**: 19-26 (Faculty of 1000).
37. Burnside, W., L.M.A. Bettencourt, O. Burger, **M.J. Hamilton**, M.E. Moses, and J.H. Brown (2011). Human macroecology: Linking pattern to process in big-picture human ecology. *Biological Reviews* **87(1)**: 194-208.
38. DeLong, J.P., O. Burger, and **M.J. Hamilton** (2010). Current demographics suggest that future energy supplies will be inadequate to slow human population growth. *PLoS ONE* **5(10)**: e13206.

### ***Ecology and Evolution***

39. Saarinen, J. A.G. Boyer, J.H. Brown, D.P. Costa, S.K.M. Ernest, A.R. Evans, M. Fortelius, J.L. Gittleman, **M.J. Hamilton**, L.E. Harding, K. Lintulaakso, S.K. Lyons, J.G. Okie, F.A. Smith, P.R. Stephens, J. Theodor, M.D. Uhen, R.M. Sibly (accepted). Macroevolution of body size in Cenozoic land mammals: intrinsic biological processes and extrinsic forcing. *Proceedings: Biological Sciences*.
40. Okie, J.G., J.H. Brown, A. Boyer, T. Dyan, M. Fortaleus, **M.J. Hamilton**, L.E. Harding, K. Lintulaakso, S.K. Lyons, C. McCain, J.J. Saarinen, R.M. Sibly, P.R. Stephens, J. Theodor, and M.D. Uhen (2013). Effects of allometry, productivity and lifestyle on rates and limits of body size evolution. *Proceedings: Biological Sciences* **280**: 20131007. <http://dx.doi.org/10.1098/rspb.2013.1007>.

41. Evans, A.R., D.O. Jones, A.G. Boyer, J.H. Brown, D.P. Costa, T. Dayan, S.K.M. Ernest, M. Fortelius, J.L. Gittleman, **M.J. Hamilton**, L.E. Harding, K. Lintulaakso, S.K. Lyons, C. McCain, J.G. Okie, J.J. Saarinen, R.M. Sibly, F.A. Smith, P.R. Stephens, J. Theodor, and M.D. Uhen (2012). Maximum rates of body size macroevolution in mammals. *Proceedings of the National Academy of Sciences, USA* **109(11)**: 4187-4190.
42. Davidson, A.D., A.G. Boyer, H. Kim, S. Pompa-Mansilla, **M.J. Hamilton**, D.P. Costa, G. Ceballos, and J.H. Brown (2012). Determinants of global extinction risk in marine mammals. *Proceedings of the National Academy of Sciences, USA*. **109(9)**: 3395-3400.
43. **Hamilton, M.J.**, A.D. Davidson, R.M. Sibly, and J.H. Brown (2011). Universal scaling of production rates across mammalian lineages. *Proceedings of the Royal Society: Biological Sciences* **278**: 560-566.
44. Smith, F.A., A.G. Boyer, J. H. Brown, D. P. Costa, T. Dayan, S. K. M. Ernest, A.R. Evans, M. Fortelius, J. L. Gittleman, **M.J. Hamilton**, L.E. Harding, K. Lintulaakso, S.K. Lyons, C. McCain, J.G. Okie, J.J. Saarinen, R.M. Sibly, P.R. Stephens, J. Theodor, and M.D. Uhen (2010). The evolution of maximum body size of terrestrial mammals. *Science* **330**: 1216-1219.
45. Davidson, A.D, **M.J. Hamilton**, A.D. Boyer, J.H. Brown, and G. Ceballos (2009). Multiple ecological pathways to extinction in mammals. *Proceedings of the National Academy of Sciences, USA* **106(26)**: 1702-1705.

## OTHER WRITING

2008 **Hamilton, M.J.** *Quantifying Clovis Dynamics: Confronting Theory with Models and Data Across Scales*. Ph.D. dissertation, Department of Anthropology, University of New Mexico.

2008 Huckell, B.B., V.T. Holliday, D.S. Amick, P.D. LeTourneau, M.E. Hill, C.V. Haynes, and **M.J. Hamilton**. Remembering Robert H. Weber, 1919-2008. *Mammoth Trumpet* **23(3)**: 8-9.

2002 **Hamilton, M.J.** and M. Gill Excavation program at 41LU1 Area 10 for the 1998 field season. In: E.J. Johnson (Ed.). *Holocene Investigations at the Lubbock Lake Landmark, Texas, 1991-2000*. Lubbock Lake Landmark Quaternary Research Center Series No. 11, Museum of Texas Tech University.

2002 **Hamilton, M.J.**. Excavation program at 41LU1 Area 5 for the 1998 field season. In: E.J. Johnson (Ed.). *Holocene Investigations at the Lubbock Lake Landmark, Texas, 1991-2000*. Lubbock Lake Landmark Quaternary Research Center Series No. 11, Museum of Texas Tech University.

2002 Buchanan, B. and **M.J. Hamilton**. Excavation program at 41LU1 Area 5 for the 2000 field season at the Lubbock Lake Landmark. In: E.J. Johnson (Ed.). *Holocene Investigations at the Lubbock Lake Landmark, Texas, 1991-2000*. Lubbock Lake Landmark Quaternary Research Center Series No. 11, Museum of Texas Tech University.

1998 **Hamilton, M.J.** *Broken Bison Bones: A Faunal Analysis of 41LU1 Area 10, Lubbock Lake Landmark, Texas, USA*. B.Sc. dissertation, Institute of Archaeology, University College London.

1994 **Hamilton, M.J.** Glass Artifact Analysis of the Lamb County Survey. Chapter in: E.J. Johnson (Ed.). *Wastewater Treatment Plant Survey, Lamb County, Texas*. Lubbock Lake Landmark Quaternary Research Center Series, Museum of Texas Tech University.

**ACADEMIC HONORS**

2008 Distinction in the Ph.D. dissertation defense, Department of Anthropology, University of New Mexico.

2007-2008 *Visiting scholar*, Institute of Ecology, National University of Mexico, Mexico City, MX. Host: Gerardo Ceballos.

2007 *Visiting scholar*, Centre for the Evolution of Cultural Diversity, Institute of Archaeology, University College London, UK (October). Host: James Steele.

2006 Elected *Phi Kappa Phi* academic honors society.

2005 Santa Fe Institute Complex Systems Summer School.

2004-2005 *Hibben Foundation Senior Fellowship*, Department of Anthropology, University of New Mexico.

2004 *Brolio-Basehart Award*, Department of Anthropology, University of New Mexico.

2002 *High Pass* (distinction) in the Ph.D. comprehensive examinations, Department of Anthropology, University of New Mexico.

2001 *Brolio-Basehart Award*, Department of Anthropology, University of New Mexico.

2000-2003 *Lewis R. Binford Fellowship*, Department of Anthropology, University of New Mexico.

**SERVICE**

2013-2015 Elected board member, Dissertation Award Committee, *Society for American Archaeology*.

PhD committees:

William E. Burnside, Dept. of Biology, UNM, 2012 (Outside committee member) Current position: Postdoctoral Fellow at the *National Socio-Environmental Synthesis Center*, University of Maryland. May, 2012.

NSF REU mentor:

Madeleine Daepf, Depts. of Economics and Mathematics, Washington University, St. Louis. Project Title: *The Lifespans of Publically-Traded Companies*. August, 2012.

Kyle S. Shank, College of the Atlantic, ME. Project Title: *Detecting Statistical Signatures of Collapse in Fisheries*. August, 2013

Reviewer:

Journals: *American Antiquity*; *American Journal of Human Biology*; *Animal Behaviour*; *Biology Letters*; *Cross-Cultural Research*; *Current Anthropology*; *Ecosystems*; *Human Nature*; *Journal of Anthropological Archaeology*; *Journal of Archaeological Method and Theory*; *Journal of Archaeological Science*; *Journal of Human Evolution*; *Journal of Statistical Mechanics*; *Journal of Theoretical Biology*; *Nature Communications*; *PLoS Biology*; *PLoS ONE*; *Proceedings of the National Academy of Sciences*; *Science*; *Social Networks*; *Springer (book chapters)*; *Wiley and Sons (book chapters)*.

Granting Agencies: *National Geographic Society*; *National Science Foundation*.

**CLASSES TAUGHT**

2009 Class Instructor (with J.H. Brown): *Human Macroecology and Metabolic Ecology* (Seminar in Biological and Biomedical Sciences, Section 1) (BIO 550). Department of Biology, University of New Mexico (Fall).

2004 Class Instructor: *Statistical Methods in Anthropology* (ANTH 372/572) Department of Anthropology, University of New Mexico (Fall).

### RESEARCH AND TEACHING ASSISTANTSHIPS

2007 Teaching Assistant: University of New Mexico *Archaeology Field School*.

2005-2006 National Science Foundation (NSF) *Research Fellow in Ecological Complexity*, Department of Biology, University of New Mexico.

2004 Teaching Assistant: Museum of Southwestern Biology, Department of Biology, University of New Mexico.

2003 Research Associate: Museum of Southwestern Biology, Department of Biology, University of New Mexico.

2003 Teaching Assistant: *Human Evolution Laboratory* (ANTH 151L).

2003 Teaching Assistant: *Evolution and Human Emergence* (ANTH 150).

2002 Teaching Assistant: *Statistical Methods in Anthropology* (ANTH 372/572).

2002 Teaching Assistant: University of New Mexico *Archaeology Field School*.

2002 Teaching Assistant: *World Archaeology* (ANTH 220).

2002 Teaching Assistant: *Mesoamerican Prehistory* (ANTH 322).

2001 Teaching Assistant: *Archaeological Methods and Theory Laboratory* (ANTH 121L).

2001 Teaching Assistant: University of New Mexico *Archaeology Field School*.

2001 Teaching Assistant: *Introduction to Anthropology* (ANTH 101).

2000 Teaching Assistant: *Introduction to Anthropology* (ANTH 101).

1994-2000 Research Assistant: Department of Anthropology, Museum of Texas Tech University, Lubbock, Texas.

### WORKING GROUPS, WORKSHOPS, AND ORGANIZED SYMPOSIA

2013 *Getting Inside the Black Box: Technological Evolution and Economic Growth*. Santa Fe Institute working group, August 7-30<sup>th</sup>.

2012 West, G.B., L.M.A. Bettencourt, and J. Lobo. *Can There Be a Science of Cities?* Santa Fe Institute, July 12-15<sup>th</sup>.

2012 Smith, F.A., K. Lyons and M. Ernest (organizers). *Integrative Macroecological Pattern and Process Across Scales*, NSF Working Group. Hotel Santa Fe, Santa Fe, NM, May 11-15<sup>th</sup>.

2012 White, D. *Causality*. Santa Fe Institute Working Group, SFI. March 26<sup>th</sup>-April 2<sup>nd</sup>.



2010-present Brown, J.H. *The New Mexico Human Macroecology Group*. Department of Biology, University of New Mexico, Albuquerque, NM.

2012 Sabloff, J. *Universal Patterns in the Emergence of Complex Societies*. Santa Fe Institute Templeton Working Group, SFI, NM, January 16th.

2011 Smith, F.A., K. Lyons and M. Ernest (organizers). *Integrative Macroecological Pattern and Process Across Scales*, NSF Working Group. Hotel Santa Fe, Santa Fe, NM, May 11-15th.

2011 Giuggioli, L. *Interaction and Decision Making in Animal Space Use and Navigation*. Bristol Centre for Complexity Sciences, University of Bristol, UK, January 20-21st.

2010 Smith, F.A., K. Lyons and M. Ernest (organizers). *Integrative Macroecological Pattern and Process Across Scales*, NSF Working Group. Hotel Santa Fe, Santa Fe, NM, Nov 11-15th.

2010 Gell-Mann, M., I. Peiros, and H.T. Wright. *Peopling of the Americas*. Santa Fe Institute, NM, Sept 25-26th.

2010 Storch, D. and A. Sizling (organizers), *Universal Patterns of Diversity Across the Sciences II*. Center for Theoretical Study, Charles University, Prague, Czech Republic, May 12-15th.

2010 Smith, F.A., K. Lyons and M. Ernest (organizers), *Integrative Macroecological Pattern and Process Across Scales*, NSF Working Group. Hotel Santa Fe, Santa Fe, NM, May 6-9th.

2009 Smith, F.A., K. Lyons and M. Ernest (organizers), *Integrative Macroecological Pattern and Process Across Scales*, NSF Working Group. Hotel Santa Fe, Santa Fe, NM, Nov 12-16th.

2009 Nekola, J. (organizer), *Universal Patterns of Diversity Across the Sciences I*. Santa Fe Institute, NM, Feb 23-26th.

2004 Buchanan B.B., **M.J. Hamilton** (organizers), and J.D. Kilby (chair). *The Clovis-Age Continent: Early Paleoindian Foragers in North America*. Held at the 69th annual meetings of the Society for American Archaeology (SAA), Montreal, QC.

## INVITED PRESENTATIONS

2014 **Hamilton, M.J.** *The Ecology of Hunter-Gatherer Residential Mobility*. Organized session (S. Kuhn) "Moving on: Anthropological Perspectives on Human Mobility". Society for American Archaeology, Austin, TX (April).

2013 **Hamilton, M.J.** *The Macroecology of Human Biocultural Diversity*. American Anthropological Association 112<sup>th</sup> annual meetings, Chicago, IL (November 21<sup>st</sup>).

2013 **Hamilton, M.J.** *A Slice of Science*. SFI lunchtime Seminar series, November 12<sup>th</sup>.

2013 **Hamilton, M.J.** *Corporate Longevity*. SFI Business Network (BNET) Meeting "The Natural History of the Corporation". Towers Watson, London, UK. September 30<sup>th</sup>.

2013 **Hamilton, M.J.** *Growth and Innovation in Small-Scale Societies. Getting Inside the Black Box: Technological Evolution and Economic Growth*. Santa Fe Institute working group, August 20<sup>th</sup>.

2013, **Hamilton, M.J.** Invited panel discussant. *Getting Inside the Black Box: Technological Evolution and Economic Growth*. Santa Fe Institute working group, August 7<sup>th</sup>.

- 2013 **Hamilton, M.J.** *Scaling the Size and Growth of Firms*. John Templeton Foundation meeting, SFI, August 1<sup>st</sup>.
- 2013 **Hamilton, M.J.** *Human Macroecology*. Santa Fe Institute Complex Systems Summer School, St. John's College, Santa Fe, NM (June 17<sup>th</sup>).
- 2013 **Hamilton, M.J.** and B. Buchanan. *Using Radiocarbon Dates to Track the Biogeographic Expansion of Humans into the Americas*. 78th meeting of the Society for American Archaeology, Honolulu, Hawai'i (April 3-7th).
- 2013 **Hamilton, M.J.** *The Macroecology of the Human Niche*. Department of Human Evolutionary Biology, Harvard University, Cambridge, MA (February 14th).
- 2012 **Hamilton, M.J.** *Structure and Scale of Hunter-Gatherer Societies*. John Templeton Foundation Meeting "Complexity: Life, Scale, and Civilization", SFI (August 8th).
- 2012 **Hamilton, M.J.** *Latitudinal Gradients in Human Cultural Diversity*. Gordon Research Conference: The Metabolic Basis of Ecology. University of New England, Biddeford, ME (July 24th).
- 2012 **Hamilton, M.J.** *The Structure and Scale of Hunter-Gatherer Societies*. Rockefeller/SFI Workshop "Can There Be a Science of Cities?" (July 14th).
- 2012 **Hamilton, M.J.** *Toward a General Theory of Hunter-Gatherer Macroecology*. Department of Anthropology, University of Michigan, Ann Arbor, MI (March 15th).
- 2011 **Hamilton, M.J.** *Scaling Theory and the Evolution of the Human Metabolic Niche*. Department of Anthropology, Washington State University, Pullman, WA, (October 20th).
- 2011 **Hamilton, M.J.** *Universal Scaling of Production across Mammalian Lineages*. Department of Biology, Simon Fraser University, Burnaby, BC (September 16th).
- 2011 **Hamilton, M.J.** *The Evolution of the Human Metabolic Niche*. Human Evolutionary Studies Program, Simon Fraser University, Burnaby BC (September 15th).
- 2011 **Hamilton, M.J.** *Toward a Metabolic Theory of Human Ecology*. Department of Anthropology, Yale University, New Haven, CT, March 29th.
- 2011 **Hamilton, M.J.** *Human Macroecology: The Energetics of Complex Human Systems*. Department of Earth Systems Science, University of California, Irvine, CA, March 7th.
- 2011 **Hamilton, M.J.** *Human Macroecology: The Energetics of Complex Human Systems*. Environment Institute, University of California, Irvine, CA, February 7th.
- 2011 **Hamilton, M.J.** *The Ecological Energetics of Hunter-Gatherer Decision-Making, Resource Use, and Mobility*. Bristol Centre for Complexity Studies, University of Bristol, UK, January 20th.
- 2010 **Hamilton, M.J.** *The Ecological Energetics of Hunter-Gatherer Mobility*. Brown Bag Series, Department of Biology, University of New Mexico, November 14th.
- 2010 **Hamilton, M.J.** *Origins of Human Subsistence: The Macroecology of Complex Human Systems*. Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany, February 10th.

2009 **Hamilton, M.J.** *Scaling Energy Use in Human Systems from Hunter-Gatherers to Nation States*. Ecological Society of America, Albuquerque, NM, August 4th.

2009 **Hamilton, M.J.** and B. Buchanan. *Cultural Transmission as a Stochastic Process*. 74th Annual Meetings of the Society of American Archaeology, Atlanta, GA, April 24th.

2008 **Hamilton, M.J.** *Scaling the Metabolism of Human Systems from Hunter-Gatherers to Nation States*. Consortium of the Americas for Interdisciplinary Science, Department of Physics, University of New Mexico, October 20th.

2008 **Hamilton, M.J.** *Human Macroecology: Scaling the Metabolism of Human Systems from Hunter-Gatherers to Nation States*. Santa Fe Institute, Santa Fe, NM, March 3rd.

2008 **Hamilton, M.J.** *Scaling the Metabolism of Human Socio-Economies from Hunter-Gatherers to Nation States*. 83rd AAAS-SWARM meetings, Albuquerque, NM, April 10th.

2008 **Hamilton, M.J.** *Energy and Information Flows Form Complex Networks in Hunter-Gatherer Social Systems*. Organized symposium, Connected Pasts: Current Network Approaches in Archaeology. 73rd Annual Meetings of the SAA, Vancouver, BC, Canada, March 29th.

2007 **Hamilton, M.J.** *Quantifying Hunter-Gatherer Space Use: Macroecology and Metabolic Scaling Theory*. Department of Anthropology, University College London, UK, October 16th.

2007 **Hamilton, M.J.** *Metabolic Scaling and Social Network Structure: The Fractal Organization of Hunter-Gatherer Populations*. NSF sponsored symposium at the American Association of Physical Anthropologists meetings, Philadelphia, PA, March 30th.

2006 **Hamilton, M.J.** *Scaling of Energy Use, Population Size, and Structure in Human Subsistence Populations*. Paper presented at the Human Evolutionary Behavior Society, University of New Mexico, April 14th.

#### OTHER PRESENTATIONS

2012 Okie, J.G., A.G. Boyer, J.H. Brown, D.P. Costa, S.K.M. Ernest, Evans, A.R., M. Fortelius, J.L. Gittleman, **M.J. Hamilton**, L.E. Harding, K. Lintulaakso, S.K. Lyons, J.J. Saarinen, F.A. Smith, P.R. Stephens, J. Theodor, M.D. Uhen, and R.M. Sibly. *Effects of Allometry, Production, and Lifestyle on the Tempo and Mode of Body Size Evolution*. Gordon Research Conference: The Metabolic Basis of Ecology. University of New England, Biddeford, ME, July 24th (poster).

2012 Allen, C., J.H. Brown, J.R. Burger, W. Burnside, A. Davidson, J. DeLong, W. Dunn, T. Fristoe, **M.J. Hamilton**, S. Hammond, A. Kodric-Brown, J. Nekola, J. Okie, N. Mercado-Silva, W. Woodruff, and W. Zuo. *The Metabolic Ecology of the Contemporary Economy*. Gordon Research Conference: The Metabolic Basis of Ecology. University of New England, Biddeford, ME, July 24th (poster).

2012 Burger, J.R., A.D. Davidson, **M.J. Hamilton**, and J.H. Brown. *Brain size allometry and lifestyles in mammals*. American Society of Mammalogists 92nd annual meetings, Reno, NV (poster).

2012 **Hamilton, M.J.**, L.M.A. Bettencourt, and G.B. West. *Scaling the growth, size, and longevity of firms in US markets, 1950-2009*. Santa Fe Institute Science Board Meeting, Santa Fe, NM (poster).

- 2011 Davidson, A.D., A.G. Boyer, H. Kim, S. Pompa-Mansilla, **M.J. Hamilton**, D.P. Costa, G. Ceballos, and J.H. Brown. *Determinants of global extinction risk in marine mammals*. 25th International Congress for Conservation Biology (ICCB 2011), Auckland, New Zealand (December).
- 2011 Woo, S., M.V. Flinn, K. Hill, **M.J. Hamilton**, and R.S. Walker. *Socioecological conditions, polygyny, and marriage arrangements in hunter-gatherer societies*. Human Behavior and Evolution Society, Montpellier, France (April).
- 2011 Collard M., B. Buchanan, **M.J. Hamilton**, and M.J. O'Brien. *Testing Hypotheses About Early Paleoindians with Radiocarbon Dates*. 75th annual meetings of the SAA in San Diego, CA (April).
- 2011 Buchanan, B., M. Collard, **M.J. Hamilton**, and M.J. O'Brien. *Investigating the Relationship Between Early Paleoindian Point Form and Prey Body Size*. 75th Annual Meetings of the SAA in San Diego, CA (April).
- 2011 Burnside, W.R., J.H. Brown, J. R. Burger, A.D. Davidson, T. Fristoe, **M.J. Hamilton**, N. Mercado-Silva, J. Okie, J.C. Nekola, W. Zuo. *Toward a Macroecology of Sustainability*. AAAS, Washington, D.C., February 20th.
- 2011 Davidson, A.D., A.G. Boyer, H. Kim, S. Pompa-Mansilla, **M.J. Hamilton**, D.P. Costa, G. Ceballos, and J.H. Brown. *Determinants of Global Extinction Risk in Marine Mammals*. 6th Meeting of the International Biogeography Association, Heraklion, Crete, January 10th.
- 2011 Brown, J.H., R. Burger, A.D. Davidson, J.P. DeLong, W. Dunn, T. Fristoe, **M.J. Hamilton**, N. Mercado Silva, J. Nekola, J. Okie, and W. Zuo. *The ecology of sustainability*. 6th Meeting of the International Biogeography Association, Heraklion, Crete, January 8th.
- 2010 Evans, A.R., D.O. Jones, A.G. Boyer, J. H. Brown, D. P. Costa, T. Dayan, S. K. M. Ernest, M. Fortelius, J. L. Gittleman, **M.J. Hamilton**, L.E. Harding, K. Lintulaakso, S.K. Lyons, C. McCain, J.G. Okie, J.J. Saarinen, R.M. Sibly, J. Theodor, and M.D. Uhen. *Rapid Evolutionary Rates over Geological Timescales in Mammals*. 70th Annual Meetings of the Society of Vertebrate Paleontology, Pittsburg, PA, Oct. 13th.
- 2010 Davidson, A.D., **M. J. Hamilton**, A. G. Boyer, J. H. Brown, G. Ceballos. *Multiple Ecological Pathways to Extinction in Terrestrial and Marine Mammals*. Society for Conservation Biology, Edmonton, Alberta, Canada, July 7th.
- 2009 Baker, J., K. Hill, A.M. Hurtado, M. A. Frey, R.S. Walker, and **M. J. Hamilton**. *An Evaluation of the Utility of Anthropological Demographic Studies for Estimating Hunter-Gatherer Populations and Implications for the Measurement of Health Disparities*. 26th IUSSP International Population Conference, Marrakech, Morocco, October 2nd.
- 2009 **Hamilton, M.J.** *Scaling Complex Human Systems*. Santa Fe Institute workshop, Santa Fe, NM, February 23rd.
- 2009 Ceballos, G., A.D. Davidson, **M.J. Hamilton**, A. Boyer, and J.H. Brown. *Multiple Ecological Pathways to Extinction in Mammals*. Society for Conservation Biology, Beijing, China, July 17th.
- 2009 Davidson, A.D., **M.J. Hamilton**, A. Boyer, J.H. Brown, and G. Ceballos. *Ecological Pathways to Extinction in Mammals*. International Society for Mammals, Mendoza, Argentina, February 22nd.
- 2009 Davidson, A.D., **M.J. Hamilton**, A. Boyer, J.H. Brown, and G. Ceballos. *Ecological Pathways to Extinction in Mammals*. International Biogeography Society, Merida, MX, January 9th.

2008 Walker, R.S., M. Gurven, O. Burger, and **M.J. Hamilton**. *The Trade-Off Between Number and Size of Offspring in Humans and Other Primates*. 83rd AAAS-SWARM meetings, Albuquerque, NM, April 10th.

2007 Buchanan, B. and **M.J. Hamilton**. *A Formal Test of the Origin of Clovis Projectile Point Variation Across North America*. Durham University, Durham, UK.

2005 **Hamilton, M.J.** *Cultural Innovations and Phenotypic Adaptations in Stochastic Environments: Some Quantitative Insights into the Evolutionary Dynamics of Foraging Societies*. 1st annual meeting of the Society for Anthropological Sciences (SASci) in Santa Fe, NM.

2005 **Hamilton, M.J.** and J.L. Boone. *Epidemiological Approaches to Cultural Change: Evolutionary Models of Transmission, Fitness, and Demography*. 70th annual meetings of the SAA in Salt Lake City, UT.

2005 Burger, O., **M.J. Hamilton**, M.E. Moses, and J.H. Brown. *Using Allometry to Investigate Energetic Constraints on Human Demography*. 70th annual meetings of the SAA in Salt Lake City, UT.

2005 **Hamilton, M.J.**, R. Holdaway, and S. Litvin. *Statistical Self-Similarity in the Structural Organization of Human Hunter-Gatherer Populations*. Santa Fe Institute Complex Systems Summer School, Santa Fe, NM.

2004 **Hamilton, M.J.**, B. Buchanan, and J.D. Kilby. *A Neutral Model of Technological Variation in the North American Late Pleistocene*. 69th annual meetings of the SAA, Montreal, QC.

2004 Kilby, J.D., B. Buchanan, and **M.J. Hamilton**. *Deconstructing Clovis: The Independence of Critical Issues*. 69th annual meetings of the SAA in Montreal, QC.

2003 **Hamilton, M.J.** *Paleoindian Cultural Transmission: The Evolutionary Processes of Cultural Change*. 68th annual meetings of the SAA in Milwaukee, WI.

2002 Buchanan, B., R. Walker and **M.J. Hamilton**. *Patterns of Carcass Use Among the Ache*. 75th Anniversary of the Department of Anthropology at University of New Mexico, Hibben Center/Maxwell Museum, University of New Mexico (poster).

2000 Buchanan, B., R. Walker and **M.J. Hamilton**. *Patterns of Carcass Use Among the Ache*. 66th annual meetings of the SAA in New Orleans, LA, (poster).

#### ARCHAEOLOGICAL FIELD EXPERIENCE

2007 Teaching Assistant for the University of New Mexico archaeological field school at the Mockingbird Gap Clovis site, New Mexico, directed by B.B. Huckell. (June-July)

2006 Test excavations at Mockingbird Gap Clovis site, New Mexico, directed by B.B. Huckell and V.T. Holliday. (May)

2001-2004 Crew chief/Teaching assistant for the University of New Mexico archaeological field school and research excavations at the Boca Negra Wash site, New Mexico. Excavation of a series of Folsom-age campsites located around an extinct playa to the west of Albuquerque directed by B.B. Huckell and V.T. Holliday. (June-July)

2002 Prospecting/survey of El Fresnal playa basin, northern Chihuahua, MX. Survey focused on particular geomorphic features relating to the pre-ceramic hunter-gatherer occupation of the area. (July-August)

2001-2002 Crew member at the excavation of Casa del Fuego, Chihuahua, Mexico, a joint research program between University of New Mexico, the Museum of New Mexico and the Institute of Archaeology and History (INAH), Mexico under the direction of Rafael Cruz Antillon. (July)

2001 Crew member at the Murray Springs site, Arizona. Reinvestigation of Clovis-age deposits in a joint research program between the University of Arizona and University of New Mexico under the direction of C.V. Haynes and B.B. Huckell. (May)

1999 Survey of a section of the Canadian River for Priam and Associates, (November) Canyon, Texas.

1997 -2000 Crew chief at the Lubbock Lake Landmark, Texas. Excavations centered on a series of stratified Paleoindian bone beds (ca.10kaBP) directed by E.J. Johnson and the Museum of Texas Tech University. Also included various regional investigations into Late Pleistocene deposits directed by V.T. Holliday. (June-August)

1995-2000 Crew chief at the San Jon site, New Mexico. Excavations centered on an early archaic/late Paleoindian camp (ca.8.5kaBP) located on the edge of an extinct playa run by the Museum of Texas Tech University, directed by E.J. Johnson and V.T. Holliday. (May-June)

1994-1996 Crew chief at the Lubbock Lake Landmark, Texas. Excavations centered on an early ceramic campsite (ca.2.5kaBP) including extensive bison processing directed by E.J. Johnson and the Museum of Texas Tech University. Also included various regional investigations into Late Pleistocene deposits directed by V.T. Holliday. (June-August) 1994-

1996 Crew member/crew chief at the Milnesand and Ted Williamson Paleoindian sites, New Mexico. Excavations and surveys of a series of Paleoindian occupations. Directed by E.J. Johnson and V.T. Holliday. (May-June)

1994 Research laboratory assistant at Blue Creek, Belize. Duties included the cataloging and processing of artifacts recovered from the late Preclassic site of Blue Creek. Research was conducted by St. Mary's University, San Antonio, Texas directed by T. Guderjan. (Sept.-Oct.)

1994 Crew member for the archaeological survey of Reese Airforce base, Texas under the direction of J.K. Hicks, E.J. Johnson and the Museum of Texas Tech University. (August-Sept.)

1993 Crew member at the Lubbock Lake Landmark, Texas. Excavations centered on an early ceramic campsite (ca.2.5kaBP) and *Bison bison* bone bed directed by E.J. Johnson and the Museum of Texas Tech University. (May-August)

## REFERENCES

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