Sherry V. Nelson **Anthropology** **March 2014**

Educational History:
B.S. 1994 Duke University Durham, North Carolina Biology (with a concentration in Evolutionary biology) / Biological Anthropology and Anatomy, *cum laude*

Ph.D. 2002 Harvard University Cambridge, Massachusetts Anthropology
"Faunal and Environmental Change Surrounding the Extinction of *Sivapithecus*, a Miocene Hominoid, in the Siwaliks of Pakistan," David Pilbeam, advisor

Employment History:
Postdoctoral research associate 2002-2004 University of Michigan Museum of Paleontology Ann Arbor, Michigan

Department Affiliate 2004-2007 Department Affiliate Harvard University Department of Anthropology Cambridge, Massachusetts

Assistant Professor 2005-2007 Boston University Department of Anthropology Boston, Massachusetts

Assistant Professor 2007-current University of New Mexico Department of Anthropology Albuquerque, New Mexico

Professional Honors:
1996 Distinction in Teaching Award Harvard University

1997 Distinction in Teaching Award Harvard University

2002 American School of Prehistoric Research Award for Outstanding Ph.D. Thesis

2011 Research Semester Fellowship University of New Mexico

2013 University of New Mexico 2013 Top-Ten Research Stories

Short Description of Research, Teaching, and Service Interests:

My research focuses on the interaction of climatic, vegetation, and faunal changes in the fossil record, particularly with respect to ape and hominin paleoecologies. I use stable isotopic and dental microwear analyses to reconstruct paleohabitats, climates, and diets. To better reconstruct the past, I also work with modern ecosystems. My goal is to have a direct comparison between fossil and modern data to better interpret fossil ape and hominin adaptations.

Much of my work focuses on Miocene hominoids, with a goal of determining whether Miocene apes had habitat requirements similar to those of modern apes and thereby understand what role changing climate played in their extinction. If fossil apes differed in their habitat and dietary requirements from modern apes, then how, with similar body and brain sizes as well as life history regimes, could they ecologically afford to exploit harsher habitats? Much of my work has focused on *Sivapithecus*, a fossil ape from the Siwaliks of Pakistan. The Siwaliks are a rare 20 million year sequence offering the opportunity to examine changes in an ape's habitat through time, including through that ape's extinction. My research has provided more detailed reconstruction of forest type, vegetation mosaic, fruit availability, and seasonality than previously available for Miocene habitats, and for the ecology of *Sivapithecus*.

My current fossil hominoid projects also include paleoecological reconstructions for two of the most enigmatic apes, *Oreopithecus* and *Gigantopithecus*. I am interested in *Oreopithecus* because it is found in Europe long after other apes there went extinct. A question remains, why did *Oreopithecus* survive outside of modern ape habitat range when no other ape could? My isotopic analyses indicate that *Oreopithecus* fed on a wider range of foods than other apes, and that these foods may have included aquatic vegetation. My isotopic analyses of *Gigantopithecus* indicate deep forest, with the lowest carbon isotopic values for a fossil locality yet recorded.

I also conduct isotopic analyses of fossil equids because they are essential to understanding the expansion of grasslands in the Miocene as well as changes in climate such as increasing seasonality. I have documented the oldest C_4 diet in Africa, and I have just completed isotopic sampling of fauna from a German Miocene site, and these results yield the first C_4 grassland dietary signal of faunas from Europe, suggesting the presence of grasslands where C_4 does not grow today.

To improve out resolution in paleoecological reconstructions, I analyze modern habitats, including a recent isotopic analysis of fauna from Kibale National Park, Uganda. This investigation reports the first isotopic analyses of enamel from a large chimpanzee community and associated fauna, thus providing a means of comparing fossil ape and early hominin paleoecologies to those of a modern ape. Within Kibale forest, oxygen isotopes differentiate primate niches, allowing for the first isotopic reconstructions of degree of frugivory vs. folivory as well as use of arboreal vs. terrestrial resources. I am currently expanding my Kibale study to incorporate isotopic and phytolith load analyses of Kibale vegetation already collected by chimpanzee researchers. My goal is to expand my analyses of modern habitats to span a range of potential early hominin habitats in order to understand what habitat could drive the changes we see from ape to hominin but still support the earliest hominins whose ancestors required rainforest and a year-round supply of fruit. The data I will collect from these habitats and their potential food sources

include three major components – isotopic, macronutrient, and phytolith analyses. By describing modern habitats quantitatively, we can directly compare data to fossil localities and more accurately describe "vegetation mosaics," limit paleodietary reconstructions to foods that are nutritionally viable, and perhaps solve discrepancies in paleohabitat reconstructions.

Finally, my laboratory is currently involved in a project to determine timing of weaning through isotopic analyses of urine from mother-infant pairs. Weaning is a process whose timing is critical to understanding the energetic trade-offs of reproduction from the mother's point of view, and the energetic requirements of morphological, cognitive, and behavioral development from the infant's. Quantifying the progression of weaning from behavioral data alone is problematic. Stable isotope analyses from mother-infant pairs will allow us to monitor infants' weaning transitions from a diet of 100% mother's milk to 100% solid foods. We will then compare weaning schedules to timing of M1 eruption. Weaning, M1 eruption, and near completion of brain growth have been heralded as some of the few isochronic relationships in primate life history, suggesting inertia in these traits. Yet, both humans and chimpanzees are exceptions to this rule. Though M1 eruption and cessation of most brain growth appear to remain isochronic in both species, humans wean their infants long before first molar eruption. Provisioning, as well as cooked weaning foods, likely play a role in accelerating weaning time for humans. Chimpanzees, on the other hand, continue to breastfeed well after their offspring erupt first molars and complete most of their brain growth. By combining isotopic measurements of weaning, growth measurements in offspring, and energetic measurements of mothers, our study will be the first to address why chimpanzee mothers continue to nutritionally invest in offspring past brain growth. Given the use of M1 eruption as a life history marker in hominin evolution, understanding exactly what M1 eruption means in terms of maternal energetics and infant development is critical.

I enjoy teaching a suite of introductory and advanced courses focusing on understanding primate and human behavior and ecology through the process of evolution, the fossil record, primate socioecology, and modern forager ecology. At UNM, in addition to supporting graduate student research in my laboratory, 12 undergraduates have conducted research, with four producing honor's theses. I am also affiliated faculty of the Program in Interdisciplinary Biological and Biomedical Sciences (PIBBS), and I have taught specialized mini-courses for them, including stable isotope ecology. In addition to teaching at the university, I enjoy lecturing in extracurricular science programs for high school students.

Books Authored:

2003 Nelson, S. The Extinction of *Sivapithecus*: Faunal and Environmental Changes Surrounding the Disappearance of a Miocene Hominoid in the Siwaliks of Pakistan. *American School of Prehistoric Research Monograph* 1. Boston: Brill Academic Publishers.

Articles in Refereed Journals:

2005 Nelson, S., C. Badgley, and E. Zakem. Microwear in modern squirrels in relation to diet. *Paleontologica Electronica* vol 8, issue 1, 14A, 15p.

2005 Nelson, S. Paleoseasonality inferred from equid teeth and intra-tooth isotopic variability. *Palaeogeography, Palaeoclimatology, Palaeoecology* 222: 122-144.

2007 Nelson, S. Isotopic reconstructions of habitat change surrounding the extinction of *Sivapithecus*, a Miocene hominoid, in the Siwalik Group of Pakistan. *Palaeogeography, Palaeoclimatology, Palaeoecology* 243: 204-222.

2008 Badgley, C., J. Barry, M. Morgan, S. Nelson, A. Behrensmeyer, T. Cerling, and D. Pilbeam. Ecological changes in Miocene mammalian record show impact of prolonged climatic forcing. *Proceedings of the National Academy of Sciences* 105: 12145-12149.

2009 Morgan, M, A. Behrensmeyer, C. Badgley, J. Barry, S. Nelson, D. Pilbeam. Lateral trends in carbon isotope ratios reveal a Miocene vegetation gradient in the Siwaliks of Pakistan. *Geology* 37: 103-106.

2010 Nelson, S. The cooking hypothesis revised:fresh food for thought. *Evolutionary Psychology* 8: 340-342.

2010 Kaiser, T., C. Seiffert, C. Hertler, L. Fielder, J. Schwartz, S. Frost, L. Giemsch, R. Bernor, D. Wolf, G. Semprebon, S. Nelson, F. Schrenk, K. Harvati, T. Bromage, and C. Sanaane. Makuyuni, a new Lower Paleolithic hominid site in Tanzania. *Mitteilungen Hamburgisches Zoologisches Musuem und Institut* 106: 69-110.

2010 Wolf, D., S. Nelson, H. Schwartz, G. Semprebon, T. Kaiser, and R. Bernor. Taxonomy and paleoecology of the Pleistocene Equidae from Makuyuni, Northern Tanzania. *Palaeodiversity* 3: 249-269.

2011 Bernor,R., T. Kaiser, S. Nelson, and L. Rook. Systematics and paleobiology of *Hippotherium malpassii* n. sp. (Equidae, Mammalia) from the latest Miocene of Baccinello V3 (Tuscany, Italy). *Bollettino della Societa Paleontologica Italiana* 50:175-208.

2013 Nelson, S. Chimpanzee fauna isotopes provide new interpretations of fossil ape and hominin ecologies. *Proceedings of the Royal Society B* 280: 20132324.

Articles Appearing in Edited Volumes:

2004 Bernor, R., T. Kaiser, and S. Nelson. The oldest Ethiopian Hipparion (Equinae, Perissodactyla) from Chorora: systematics, paleodiet, and paleoclimate. Senckenberg Courier Special Volume 246: 213-226.

2005 Badgley, C., S. Nelson, J. Barry, A. Behrensmeyer, and T. Cerling. Testing models of faunal turnover with Neogene mammals from Pakistan. In Interpreting the Past: Essays on Human, Primate and Mammal Evolution in Honor of David Pilbeam. *American School of Prehistoric Research Monograph*. Boston: Brill Academic Press.

2005 Nelson, S. Habitat requirements and the extinction of the Miocene ape, *Sivapithecus*. In Interpreting the Past: Essays on Human, Primate and Mammal Evolution in Honor of David Pilbeam. *American School of Prehistoric Research Monograph*. Boston: Brill Academic Publishers.

Articles in review:

Nelson, S. The paleoecology of Early Pleistocene *Gigantopithecus blacki* inferred from isotopic analyses. *American Journal of Physical Anthropology*.

Invited and Refereed Abstracts / Presentations at Professional Meetings:
Reconstruction of paleoprecipitation regimes, and associated forests inhabited by *Sivapithecus*; S. Nelson; New England Biological Anthropology Symposium; Yale University; 2002.

Paleoenvironmental reconstructions with respect to the extinction of *Sivapithecus* in Pakistan; S. Nelson; American Association of Physical Anthropologists; Buffalo, New York; 2002.

The preferred habitats of *Sivapithecus* in the Siwaliks of Pakistan and paleoenvironmental changes leading to its extinction; S. Nelson; Asian Paleoprimatology Symposium; Primate Research Institute of Kyoto University, Japan; 2003.

Miocene paleoseasonality inferred from equid teeth and intra-tooth isotopic profiles; S. Nelson; Society of Vertebrate Paleontology; Minneapolis, Minnesota; 2003.

Dental microwear analyses of *Sivapithecus* and contemporaneous fauna; S. Nelson; American Association of Physical Anthropologists; Tampa, Florida; 2004.

A comparison of *Sivapithecus* and modern chimpanzee habitats, and environmental changes associated with the extinction of *Sivapithecus*; S. Nelson; International Geological Congress; Florence, Italy; 2004.

Testing models of faunal turnover with Neogene mammals from Pakistan; C. Badgley, S. Nelson, J. Barry, A. Behrensmeyer, and T. Cerling; Society of Vertebrate Paleontology; 2004

Isotopic reconstructions of Late Miocene climate, vegetation, and faunal change in the Siwaliks of Pakistan; S. Nelson; International Paleontological Congress, Beijing, China; 2006.

Evidence for habitat gradients using lateral variation in stable carbon isotope ratios within the Miocene Siwalik Sequence of Pakistan; M. Morgan, A. Behrensmeyer, C. Badgley, S. Nelson, and J. Barry; Society of Vertebrate Paleontology; 2006.

Dietary reconstructions of the Middle and Late Miocene ungulate communities in the Siwaliks, Pakistan; M. Belmaker, S. Nelson, M. Morgan, L. Flynn, J. Barry, D. Pilbeam, and C. Badgley; Paleoanthropology Society; 2007

Mesowear analysis of selenodont ungulates in the Middle to Late Miocene of the Siwaliks, Pakistan: dietary and paleoenvironmental implications; M. Belmaker, S. Nelson, M. Morgan, J. Barry, and C. Badgley; Society of Vertebrate Paleontology; 2007.

Reconstructing *Oreopithecus*' paleoecology by means of stable isotopic analyses. Preliminary data; S. Nelson and L. Rook; European Fossil Primates Colloquium; Italy; 2008.

Paleoecology of *Oreopithecus bambolii* faunas (Tuscany and Sardinia): stable isotopic analyses results; L. Rook and S. Nelson; Regional Committee on Mediterranean Neogene Stratigraphy; Italy; 2009.

Systematics and paleoecology of diverse species of Equidae from the Pleistocene locality of Makayuni, Northern Tanzania; D. Wolf, R. Bernor, T. Kaiser, S. Nelson, and G. Semprebon; Society of Vertebrate Paleontology; Great Britain; 2009.

Paleoecology of *Oreopithecus* faunas based on stable isotopic analyses; S. Nelson and L. Rook; American Association of Physical Anthropologists; Albuquerque, New Mexico; 2010.

Stable Isotopic Analyses of New Mexico Mummies with Multiple Tissues; C. Mitchell, C. Kieffer, K. Kitagawa, C. Mosley, P. Naranjo, S. Nelson, V. Atudorei, and H. Edgar; American Association of Physical Anthropologists; Minneapolis, Minnesota; 2011.

Paleoecology of *Gigantopithecus blacki* based on stable isotope analyses; S. Nelson; Southwestern Association of Biological Anthropologists, Tempe, Arizona; 2013.

How did Late Miocene rodents respond to changes in the grassland biome of southern Asia?; L. Flynn, Y. Kimura, and S. Nelson; North American Paleontological Convention, Gainesville, Florida; 2014.

The use of Bayesian-inference stable isotope mixing models to infer niche breadth in the fossil record: an extant study from Kibale National Park; M. Hamilton and S. Nelson; American Association of Physical Anthropologists, Calgary, Canada; 2014.

Field Research:
Paleontological excavations / surveys:
1995 Kromdraii, South Africa
1996 Can Llobateres, Spain
1996 Sinap and Pasalar, Turkey
1996, 2000 Siwalik sediments, Pakistan

1993-1994 Behavior of Black-and-White Ruffed Lemurs, Duke University Primate Center (Natural Habitat Enclosures)

1994 Communication in Carolina Chickadees, North Carolina

1994 Study of diet and behavior of howler monkeys, Costa Rica

2002, 2004 Chimpanzee behavior and isotopic analyses of fauna, Kibale Forest, Uganda

2003 Dental microwear analyses of Hadza diets, Tanzania

Funding:
Delta-Kappa Educational Foundation Scholarship Grant for Prospective Educators
Sherry Nelson
1990

Behavior of Black-and-White ruffed lemurs, Duke University Primate Center
Sherry Nelson
Pew-Cosen Research Fellowship
1993
$3200

Diet and behavior of howler monkeys, Costa Rica
Sherry Nelson
Undergraduate Research Fellowship
1994
$2500 plus travel

National Science Foundation Graduate Research Fellowship;
Sherry Nelson
1994-1997
$43,200 plus tuition

Excavation of Kromdraii, a fossil hominid locality
Sherry Nelson
Mellon Research Grant
1995
$3000

Training in dental microwear and analysis of Siwalik fauna
Sherry Nelson
American School of Prehistoric Research
1998
$571

Training in stable isotope ecology
Sherry Nelson
American School of Prehistoric Research
1999
$2490

Cora Dubois Fellowship
Sherry Nelson
2000
$8000

Mellon Dissertation Completion Fellowship
Sherry Nelson
2001
$8674

American School of Prehistoric Research Award for Outstanding Ph.D. Thesis
Sherry Nelson
2002
$1000

Intra-tooth isotopic variability of modern equid teeth
Sherry Nelson
Scott Turner Award in Earth Science
2003
$3000

Dental microwear analyses of Hadza diets
Sherry Nelson
Women's International Science Collaboration (underwritten by National Science Foundation)
2003
$5000

Isotopic analyses of fauna from Kibale National Park, Uganda
Sherry Nelson
American School of Prehistoric Research
2003
$4000

International Travel Award
Sherry Nelson
University of Michigan Museum of Paleontology
2004
$1000

International Travel Award
Sherry Nelson
Boston University Graduate School of Arts and Sciences
2006
$2210

Development of laboratory materials for biological anthropology courses
Sherry Nelson
Teaching Allocations Subcommittee grant, University of New Mexico
2007
$4980

Stable isotopic analyses of Hoewenegg, a Miocene site in Germany
Sherry Nelson
Subcontract with Hans-Walter Mittmann, Staatliches Museum fur Naturekunde Karlsruhe
2009
$4000

Isotopic and phytolith analyses of chimpanzee foods
Sherry Nelson
Large Resource Allocations Subcommittee grant
2011
$8000

Developmental Integration and the Ecology of Life Histories in Wild Chimpanzees
M.N. Muller (PI), R.W. Wrangham (co-PI), S.V. Nelson (co-PI), and M. Emery Thompson (co-PI)
National Science Foundation
Pending
$221,004

Isotopic and phytolith analyses of primate diets and microhabitats in Kibale National Park
Sherry Nelson
Resource Allocations Subcommittee grant
Submitted
$8820

Undergraduate Student Mentoring:
2003 Undergraduate Research Opportunity Program, University of Michigan

Emily Zakem; 2003-2004; Dental microwear of rodents; University of Michigan

Catherine Mitchell; 2007; Dental microwear and stable isotope laboratory techniques; Boston University

Judy Hartline; 2008-2009; Honors thesis – Dental microwear of South African australopithecines; University of New Mexico

Celeste Schwartz; 2009; Casting and molding dentition, dental microwear

Joshua Vallejos; 2009-2010; Honors thesis – Dental microwear of Kibale primates

Clayton Pilbro; 2009-2011; Honors thesis –Comparison of Early Eocene San Juan Basin, NM *Phenacolemur jepseni* with *Phenacolemur citatus* and *Phenacolemur praecox* from Bighorn Basin, WY – a study of variation and validity of these *Phenacolemur* species

Kamden Cornell; 2010; Casting and molding dentition; monkey taxonomic identification

Oceana Ortiz; 2010; Casting and molding dentition

Thera McAvoy; 2010; isotopic analyses of mummified hair

Jada Patterson; 2011; Dietary reconstructions from mesowear

Nicholas Zamora; 2011; Dental microwear of New World monkeys

Sonee Swisley; 2013; Cellulose extraction of chimpanzee foods

Melissa Sheldahl; 2013; Cellulose extraction of chimpanzee foods

Cybele Carpenter; 2013-current; Honor's thesis – Measuring Cranial Growth in Wild Chimpanzees Using Photogammetry for Interpreting Life History Evolution

Graduate Student Mentoring:
Catherine Mitchell; 2008-2012; dissertation advisor; (PIBBS scholar)

Keiko Kitagawa; 2008-2010; dissertation committee member

Shawn Whiteman; 2008-present; dissertation committee member

Tim Petersen; 2009; dissertation committee member

Diana Rabenold; 2009-present; dissertation committee member

Crystal Kieffer; 2010-present; dissertation committee member

Sarah Phillips-Garcia; 2011-present; dissertation committee member

Melissa Pardi; 2011-present; dissertation committee member

Muhammad Tariq; 2011-present; dissertation committee member, Government College University, Lahore, Pakistan

Marian Hamilton; 2012-present; dissertation advisor; (NSF Graduate Research Fellowship)

Classroom Teaching:
Harvard University teaching fellow:
1996-1998; ANTH 117; Human Evolution; 50-60 students each class

Boston University courses:
2005 Fall ANTH 552; Primate Evolution and Anatomy; 4 students
ANTH 102; Human Behavior and Evolution; 150 students

2006 Fall ANTH 705; Graduate Proseminar in Anthropology; 3 students
ANTH 331; Human Origins; 19 students

2007 Spring ANTH 102; Human Behavior and Evolution; 150 students
ANTH 534; Advanced Topics in Human Behavioral Evolution; 9 students

University of New Mexico courses:
2007 Fall ANTH 357 Human Origins 15 students

2008 Spring ANTH 450/550 Topics in Human Behavioral Evolution; 18 students
ANTH 150 Human Emergence; 103 students
BIO 402/502 Topics in Paleoecology; 26 students
Guest lecture BIO 503 Seminar in Interdisciplinary Biology and Biomedical Sciences
Guest lecture ANTH 570 Science in Archaeology

2008 Fall ANTH 450/550 Primate Evolution; 13 students
ANTH 457/557 Paleoanthropology; 17 students
BIO 503 Topics in Interdisciplinary Biology and Biomedical Sciences

2009 Spring ANTH 150 Human Emergence; 108 students
ANTH 450/550 Topics in Human Behavioral Evolution; 11 students
ANTH 497 Individual Study; 2 students
ANTH 698 Advanced Research; 1 student

Guest lecture ANTH 570 Science in Archaeology

2009 Fall ANTH 698 Advanced Research; 1 student
Guest lecture ANTH 570 Science in Archaeology
(Maternity Leave)

2010 Spring ANTH 150 Human Emergence; 108 students
ANTH 450/550 Paleoecology Lab; 10 students
ANTH 497 Individual Study; 1 student

2010 Fall ANTH 357 Human Origins; 43 students
ANTH 450/550 BIO 402/502 Primate Evolution; 11 students
ANTH 497 Individual Study; 1 student
ANTH 698 Advanced Research; 2 students

2011 Spring ANTH 399 Introduction to Field and Lab Research; 1 student

2011 Fall ANTH 457/557 Paleoanthropology; 10 students
ANTH 450/550 Paleoecology Lab; 7 students
ANTH 497 Individual Study; 1 student
ANTH 698; Advanced Research; 1 student

2012 Spring ANTH 150 Human Emergence; 110 students
ANTH 464/564 Human Behavioral Evolution; 14 students
ANTH 698 Advanced Research; 1 student

2012 Fall ANTH 357 Human Origins; 41 students
ANTH 450/550 Primate Evolution; 11 students

2013 Spring ANTH 150 Human Emergence; 110
ANTH 464/564 Human Behavioral Evolution; 11
ANTH 399 Intro to Field and Lab Research; 1 student
ANTH 698 Advanced Research; 1 student

2014 Spring ANTH 450/ BIO 419 Humans and the Environment; 9 students
ANTH 497 Individual Study; 1 student
BIO Elemental Ecology – guest lecture

Service:

1995-1999 Harvard Earth History and Paleontology (EHAP) seminar series coordinator

1999 Instructor, University of Connecticut "Aquanaut" Whale Communication and Oceanography Program

2003 Consultant for television series "Miracle Planet – the Evolution of Our World"

2006 Mentor, Weston High School Senior Internship Program

2007-2009 University of New Mexico Anthropology departmental seminar series coordinator

2007-current Manager of the University of New Mexico Anthropology cast collection

2007-present affiliated faculty Program in Interdisciplinary Biological and Biomedical Sciences (PIBBS)

2008 "*Sivapithecus*: the life and death of a Miocene ape." Ancestors Lecture, Maxwell Museum of Anthropology, University of New Mexico.

2008 Consultant in workshop to develop new Maxwell Museum human evolution exhibit.

2008 "*Sivapithecus*: Reconstructing the life of a Miocene ape." Summer Science Program, Socorro, New Mexico.

2009 "Miocene: Dawn and demise of the apes." Seminar series, Department of Earth and Planetary Sciences, University of New Mexico.

2010 Radio interview for NPR, Pasadena. The discovery of *Australopithecus sediba*.

2010 Café Scientifique. "The human fossil record: interpreting behavior from bones." Four presentations to high school students in Los Alamos, Espanola, Albuquerque, and Santa Fe, New Mexico.

2011 Fossils presentation; Albuquerque elementary school

2011 "What makes us human? Inferences from the fossil record." Summer Science Program, Socorro, New Mexico

2011- present Resource Allocations Committee

2012 Fossils presentation; Albuquerque elementary school

2012 Science fair. Albuquerque elementary school

2012-2013 Search Committee, assistant professor position, Dept. Anthropology

2013-current Continuing non-tenure track faculty review committee

2013 Teeth and skulls presentation. Albuquerque elementary school

2013 Fossil presentation – Maxwell Museum summer camp

Peer reviews:

2003 *Anthropological Science*

2004 *Paleobiology*

2006 *Journal of Mammalogy*

2007 *Human Nature*

2007 Grant proposal reviewer for the Academy of Finland and the National Natural Science Foundation of China

2008 *Palaeogeography, Palaeoclimatology, Palaeoecology*

2008 *Mammalian Biology*

2008 *Naturwissenschaften*

2008 *Paleobiology*

2009 *Paleobiology*

2009 *Palaeogeography, Palaeoclimatology, Palaeoecology*

2009 *Journal of Human Evolution*

2009 Grant reviewer National Science Foundation (3)

2010 *Palaeogeography, Palaeoclimatology, Palaeoecology*

2010 *Quaternary International*

2010 *Human Nature*

2011 *Palaeogeography, Palaeoclimatology, Palaeoecology* (2)

2011 *Human Nature*

2011 Grant reviewer Petroleum Research Fund (American Chemical Society)

2011 Grant reviewer National Science Foundation

2011 *Proceedings of the National Academy of Sciences*

2012 *Palaeogeography, Palaeoclimatology, Palaeoecology*

2012 *Proceedings of the National Academy of Sciences* (2)

2013 *Quaternary International*

2013 *International Journal of Primatology*

2013 *Proceedings of the National Academy of Sciences*

2013 *Current Biology*

2014 *Proceedings of the National Academy of Sciences*

2014 *Journal of Anthropological Research*