

CURRICULUM VITAE

Personal

Paul Thomas Schoenemann Department of Anthropology 812-855-8800
 Citizenship: U.S.A. Indiana University toms@indiana.edu
 Student Building 130
 701 E. Kirkwood Avenue
 Bloomington IN 47405-7100

Museum of Archaeology and Anthropology 215-573-7671
 University of Pennsylvania
 153 Museum
 3260 South Street
 Philadelphia PA 19104

Education

<i>University of California, Berkeley</i>	Ph.D. in Anthropology
May 1997	
<i>University of California, Berkeley</i>	M.A. in Anthropology
May 1993	
<i>University of California, Berkeley</i>	B.A. in Anthropology
May 1986	Magna Cum Laude

Academic Positions

August 2009 to present	<i>Associate Professor of Anthropology</i> , Department of Anthropology Indiana University
August 2009 to present	<i>Research Scientist</i> , The Stone Age Institute Bloomington, Indiana
December 2009 to present	<i>Faculty member</i> , Cognitive Science Program Indiana University
June 2011 to present	<i>Faculty member</i> , Center for the Integrative Study of Animal Behavior Indiana University
July 2005 to present	<i>Consulting Scholar</i> , Physical Anthropology Section University of Pennsylvania Museum of Archaeology and Anthropology
June 2005 to present	<i>Director</i> , Open Research Scan Archive (formerly: Penn Cranial CT Database) University of Pennsylvania Museum of Archaeology and Anthropology
August 2007 to August 2009	<i>Assistant Professor of Anthropology</i> , Department of Sociology and Anthropology James Madison University
July 2005 to August 2007	<i>Assistant Professor of Anthropology</i> , Department of Behavioral Sciences University of Michigan-Dearborn
July 1998 to June 2005	<i>Assistant Professor</i> , Department of Anthropology University of Pennsylvania

May 1997 to July 1998	<i>Post-Doctoral Fellow</i> , NIH National Research Service Award Center for Functional Imaging, Lawrence Berkeley National Laboratory
Fall 1996	<i>Instructor</i> , Department of Oral Biology University of California, San Francisco
Spring 1995	<i>Instructor</i> , Department of Anthropology University of California, Berkeley
Summer to Fall 1991	<i>Clinical Instructor</i> , Department of Anatomy University of the Pacific School of Dentistry
Fall 1987 to Spring 1993 (13 classes)	<i>Graduate Student Instructor</i> , Department of Anthropology University of California, Berkeley

Publications

Refereed Articles

- Schoenemann, P. Thomas**, 2009, "Evolution of Brain and Language," *Language Learning*, v. 59(Suppl. 1):162–186
- Beckner, Clay, Richard Blythe, Joan Bybee, Morten H. Christiansen, William Croft, Nick C. Ellis, John Holland, Jinyun Ke, Diane Larsen-Freeman, **Tom Schoenemann**, 2009, "Language Is a Complex Adaptive System: Position Paper," *Language Learning*, v. 59(Suppl. 1):1-26
- Schoenemann, P. Thomas**, James Gee, Brian Avants, Ralph L. Holloway, Janet Monge, and Jason Lewis, 2007, "Validation of Plaster Endocast Morphology Through 3D CT Image Analysis" *American Journal of Physical Anthropology* v. 132:183-192
- Schoenemann, P. Thomas**, 2006, "Evolution of the Size and Functional Areas of the Human Brain" *Annual Review of Anthropology* v. 35:379-406
- Avants, Brian B., **P. T. Schoenemann**, and J. C. Gee, 2006, "Landmark and Intensity Driven Lagrangian Frame Diffeomorphic Image Registration: Application to Functionally and Structurally-based Inter-Species Comparison" *Medical Image Analysis* v. 10(3):397-412
- Schoenemann, P. Thomas**, Michael Sheehan, and L. Daniel Glotzer, 2005, "Prefrontal white matter volume is disproportionately larger in humans than in other primates" *Nature Neuroscience* v. 8(2):242-252
- Schoenemann, P. Thomas**, 2004, "Brain size and body composition in mammals," *Brain Behavior and Evolution* v. 63(1):47-60
- Schoenemann, P. Thomas**, Thomas F. Budinger, Vincent M. Sarich, William S.-Y. Wang, 2000, "Brain size does not predict general cognitive ability within families," *Proceedings of the National Academy of Sciences*. v. 97(9):4932-4937
- Schoenemann, P. Thomas**, 1999, "Syntax as an emergent characteristic of the evolution of semantic complexity," *Minds and Machines*, v. 9:309-346.

Book Chapters

- Schoenemann, P. Thomas**, in press, "Evolution of Brain and Language" in *Evolution of the Primate Brain: From Neuron to Behavior*, edited by Michel A. Hofman and Dean Falk, series title: *Progress in Brain Research*, series editors: Stephen Waxman, Donald G. Stein, Dick Swaab and Howard Fields. Amsterdam: Elsevier
- Schoenemann, P. Thomas**, in press, "Brain Evolution," in *A Companion to Paleoanthropology*, edited by D.R. Begun. Blackwell
- Schoenemann, P. Thomas**, 2010, "The meaning of brain size: the evolution of conceptual complexity" in *Human Brain Evolving: Papers in Honor of Ralph Holloway* edited by Douglas Broadfield, Michael Yuan, Kathy Schick, and Nicholas Toth. Bloomington, Indiana: Stone Age Institute Press, pp. 37-50
- Schoenemann, P. Thomas**, 2009, "Brain evolution relevant to language" in *Language, Evolution, and the Brain* edited by Minett, James W. & Wang, William S.-Y., Hong Kong: City University of Hong Kong Press, pp. 191-223
- Schoenemann, P. Thomas**, 2005, "Conceptual complexity and the brain: Understanding language origins" in *Language Acquisition, Change and Emergence: Essays in Evolutionary Linguistics* edited by William S.-Y. Wang and James W. Minett. Hong Kong: City University of Hong Kong Press, pp. 47-94

Letters and Commentaries

- Schoenemann, P. Thomas**, L. D. Glotzer, and Michael Sheehan, 2005. "Reply to "Is prefrontal white matter enlargement a human evolutionary specialization?"" *Nature Neuroscience* 8(5):538 (referred letter)
- Schoenemann, P. Thomas**, 2003, "Commentary on 'Genes and cultures: What creates our behavioral phenome' by Ehrlich and Feldman" *Current Anthropology*, v. 44(1):101
- Schoenemann, P. Thomas**, 2002, "Putting meat on the bones: The necessity of empirical tests of hypotheses about cognitive evolution," *Behavioral and Brain Sciences*, v. 25:416-417
- Schoenemann, P. Thomas**, 2001, "Brain scaling, behavioral ability, and human evolution," *Behavioral and Brain Sciences*, v.24(2):293-295
- Schoenemann, P. Thomas**, and William S.-Y. Wang, 1996, "Evolutionary principles and the emergence of syntax," *Behavioral and Brain Sciences*, v.19(4):646-647
- Schoenemann, P. Thomas**, and John S. Allen, 1991, Comment on "New models and metaphors for the Neanderthal debate," by Paul Graves, *Current Anthropology*, v.32(5):530-532. (invited commentary)

Refereed Abstracts

- Schoenemann, P. Thomas**, Ralph Holloway, Janet Monge, Brian Avants, and James Gee, 2011, "Differences in endocranial shape between Homo and Pongids assessed through non-rigid deformation analysis of high-resolution CT images." *American Journal of Physical Anthropology*, v. 144, Supplement 52:265-266
- Holloway, R.L., J. Monge, **T. Schoenemann**, 2011 "The LB1 endocast: un-adorned, un-smoothed, a replication study based on the original CT scan data", *American Journal of Physical Anthropology*, v. 144, Supplement 52: 165-166, Published.

- Prima, S., R. Holloway, G.Subsol, B.Combes, **T. Schoenemann**, J. Braga and J.Monge, 2011 “New 3D automatic methods for the analysis of the endocranial shape and its relationship with ectocranial structures: assessment and preliminary experiments”, *American Journal of Physical Anthropology*, v. 144, Supplement 52: 243-244, Published.
- Schoenemann, P. Thomas**, 2010, “The importance of exploring non-linguistic functions of human brain language areas for explaining language evolution.” *The Evolution of Language; Proceedings of the 8th International Conference (EVO LANG8)*. Andrew D. M. Smith, Marieke Schouwstra, Bart de Boer, and Kenny Smith, eds., London: World Scientific Publishing, pp. 485-486
- Schoenemann, P.T.**, J. Monge, B.B. Avants, J.C. Gee, 2010 “Creating statistical atlases of modern primate endocranial morphology using non-rigid deformation analysis of high-resolution CT images.” *American Journal of Physical Anthropology*, v. 141, Supplement 50:208-209
- Holloway, R. L., J. Monge, **T. Schoenemann**, 2010 “The Hobbit Brain: some questions about its ‘derived’ features.” *American Journal of Physical Anthropology*, v. 141, Supplement 50:130
- Schoenemann, P.T.**, J. Monge, B.B. Avants, J.C. Gee, 2009 “An atlas of modern human cranial morphology constructed via non-rigid deformation analysis of high-resolution CT images.” *American Journal of Physical Anthropology*, v. 138, Supplement 48:231
- Schoenemann, P. T.**, R. L. Holloway, B. B. Avants, J. C. Gee, 2008, “Endocast asymmetry in pongids assessed via non-rigid deformation analysis of high-resolution CT images.” *American Journal of Physical Anthropology*, v. 135, Supplement 46:187-188
- Schoenemann, P. T.**, J. Monge, B. B. Avants, D. Glotzer, J. C. Gee, 2007, “Sex differences in cranial form assessed via non-rigid deformation analysis of high-resolution CT images” *American Journal of Physical Anthropology*, v. 132, Supplement 44:209
- L.D. Glotzer, **P. T. Schoenemann**, 2007, “4-dimensional diffeomorphic modeling: A novel approach for investigating human embryonic brain development” *American Journal of Physical Anthropology*, v. 132, Supplement 44:115
- Schoenemann, P. T.**, J. S. Allen, 2006, “Scaling of brain and body weight within modern and fossil hominids: implications for the Flores specimen” *American Journal of Physical Anthropology*, v. 129, Supplement 42:159-160
- Holloway, R.L., P. Brown, **P.T. Schoenemann**, J. Monge, 2006 “The brain endocast of Homo floresiensis: microcephaly and other issues...” *American Journal of Physical Anthropology*, v. 129, Supplement 42:105
- Avants, Brian B., J. C. Gee, **P. T. Schoenemann**, J. Monge, J. E. Lewis and Ralph L. Holloway, 2005, “A new method for assessing endocast morphology: calculating local curvature from 3D CT images” *American Journal of Physical Anthropology*, v. 126, Supplement 40:67
- Schoenemann, P. T.**, B. B. Avants, J. C. Gee, L. D. Glotzer, and M. J. Sheehan, 2004, “Analysis of chimp-human brain differences via non-rigid deformation of 3D MR images” *American Journal of Physical Anthropology*, v. 123, Supplement 38:174-175
- Avants, B., J. Gee, **P. T. Schoenemann**, J. Monge, J. E. Lewis, R. L. Holloway, 2004, “Validation of plaster endocast morphology through 3D CT image analysis” *American Journal of Physical Anthropology*, v. 123, Supplement 38:56

- Lewis, J. E., **P. T. Schoenemann**, and J. Monge, 2004, "Endocranial capacity estimated from 3-D CT: Methodological issues" *American Journal of Physical Anthropology*, v. 123, Supplement 38:135
- Monge, J., **P. T. Schoenemann**, J. Lewis, and D. Glotzer, 2004, "The CT Database at the University of Pennsylvania Museum" *American Journal of Physical Anthropology*, v. 123, Supplement 38:149
- Meyer, M., J. Blumenfeld, and **P. T. Schoenemann**, 2004, "Geographic patterns of nasal morphology in *Homo*" *American Journal of Physical Anthropology*, v. 123, Supplement 38:146-147
- Schoenemann, P. Thomas**, and L. Daniel Glotzer, 2003, "Evolution of the prefrontal cortex: A stereological analysis of primate brain MRI scans" *American Journal of Physical Anthropology*, v.120, Supplement 36:185-186
- Schoenemann, P. Thomas**, 2000, "The effects of different brain indices on brain/behavior relationships: a within-species study of humans," *American Journal of Physical Anthropology*, Supplement 30:273
- Schoenemann, P. Thomas**, 1999, "Relationships between prefrontal volume and behavior in normal human females," *American Journal of Physical Anthropology*, Supplement 28:244
- Schoenemann, P. Thomas**, 1998, "Relationships between corpus callosum morphology and behavior in normal human females," *American Journal of Physical Anthropology*, Supplement 26:196-197
- Schoenemann, P. Thomas**, 1995, "Brain size scaling and body composition in mammals: Implications for the sex difference in brain size in *Homo sapiens*," *American Journal of Physical Anthropology*, Supplement 19:298
- Schoenemann, P. T.**, 1989, "Comparison of intraspecific craniometric variability in *Homo*, *Pan*, and *Gorilla*," *American Journal of Physical Anthropology*, v.78(2):298

Other Publications

- Schoenemann, P. Thomas**, Janet Monge, L. Daniel Glotzer, Michael Campana, 2008, "The open research CT scan archive," *British Institute of Radiology Newsletter*, Spring Issue:13-15
- Klein, Gregory J, Xia Teng, **P. Thomas Schoenemann** and Thomas F. Budinger, 1998, "A Sensitivity Analysis of Brain Morphometry Based on MRI-Derived Surface Models", in *Medical Imaging 98: Physiology and Function from Multidimensional Images, Proceedings of the Society of Photo-Optical Instrumentation Engineers*, E Hoffman, Editor, v.3337:294-303.

Web Resources

- Podcast of invited conference lecture: "Evolution of Brain and Language," Language as a Complex Adaptive System Conference, 60th Anniversary Celebration of the journal *Language Learning*, University of Michigan-Ann Arbor, November 2008: <http://www.wiley.com/bw/podcast/lang.asp>
- Open Research Scan Archive Research Scan website: <http://plum.museum.upenn.edu/~orsa/ORSA/Welcome.html/>
- Open Research Scan Archive Educational Website: <http://www.indiana.edu/~orsa/> Contains high resolution interactive 3D movies of 30 fossil Hominin specimens, basic information about these fossils, and maps them on Google Earth. This has been co-developed with Janet Monge (University of Pennsylvania), Cameron Griffith (Indiana University), Delanie Hurst (Indiana University).

Human Brain Evolution Laboratory website: <http://mypage.iu.edu/~toms/lab.html>

Book Reviews

Schoenemann, Tom, 2006, "Review of: From Monkey Brain to Human Brain: A Fyssen Foundation Symposium" *American Journal of Human Biology* v. 18(5):722-724.

Schoenemann, P. Thomas, 2001, "Review of *Molecular Biology of the Brain*, edited by S. J. Higgins," *Human Biology*. V.73(4):614-617

Publications in Preparation

"Evolution of brain and language," invited contribution to *Evolution of the Primate Brain: From Neuron to Behavior*, Michel A. Hofman and Dean Falk, eds., Elsevier.

"Evolution of Language," invited contribution to a festschrift volume in Honor of Prof. William S-Y. Wang, Shi Feng and Peng Gang eds.

"Relationships between Corpus Callosum Morphology and Behavior in Normal Human Females Using Voxel-Based Deformable Registration Analysis", coauthored with James Gee, Abraham Dubb, Jian Hu, Jason Lewis

"Scaling of brain and body weight within modern and fossil hominids: implications for the Flores specimen," co-authored with John S. Allen.

"Methodological Issues in Estimation of Endocranial Capacity from 3-D CT.," coauthored with Jason E. Lewis & Janet M. Monge; revise and resubmit to *Journal of Human Evolution*

"Morphing Chimp into Human: A Novel Method for Quantifying Brain Anatomy Differences"

"Initial Word Learning in Children: A Neural Net Model that Does Not Require Language-Specific Innate Constraints"

"A Test of the Social Intelligence Hypothesis in Healthy Individuals"

Media Reports about my Work

Kerry Grens, WHYY Radio, December 15 2008, "Scanning skulls for their secrets", story on scanning the Hyrtl Collection of skulls from the Mütter Museum in Philadelphia by our Open Research Scan Archive, text, podcast and slideshow available online at <http://whyy.org/cms/news/health-science/2008/12/15/scanning-skulls-for-their-secrets/1582/>

Anonymous, April 2007, Penn Museum press release (picked up by the Associated Press and various other local media): "Two 4600 Year Old Skulls from Famous Excavations at Royal Tombs of Ur, Iraq Traveled to the Hospital of the University of Pennsylvania For CAT Scans Sunday morning, April 15", <http://www.museum.upenn.edu/new/news/fullrelease.php?which=274>; also: <http://www.stonepages.com/news/archives/002342.html>, <http://historyhuntersinternational.org/index.php/topic,1774.0.html>, <http://www.freerepublic.com/focus/f-news/1817303/posts>

Kate Wong, 2006, "Hobbit News," in Blog: Sciam Observations: Opinions, arguments and analyses from the editors of *Scientific American*, <http://www.sciam.com/podcast/episode.cfm?id=00064EE1-06EB-1417-86EB83414B7F0000>

BBC Horizon documentary, 2005, “The Mystery of the Human Hobbit”. I facilitated the scanning of an endocast of the Flores LB1 specimen for the documentary, and contributed 3D reconstructions of the scan for the filming.

Haseltine, Eric, 2001, “Does your brain measure up? When it comes to smarts, size matters,” *Discover Magazine* v.22(9):88.

Olmstead, Susan C., 2000, “Is a bigger brain a better brain?” *Advance for Imaging and Radiation Therapy Professionals*, July 17, 2000 issue, p. 18.

Research Grants

\$238,664 from NSF: “Expansion and Improvement of the Penn Cranial CT Database,” PI. June 2005 – June 2009

\$33,600 from University of Pennsylvania Research Foundation. Grant title: “High-resolution computed tomography (CT) of human and non-human crania from the University Museum: Collection archiving, and analysis”. Co-PI with Dr. Janet Monge. June 2002 - June 2005

\$29,933 from the National Science Foundation, Grant title: “Monkey life histories and dental hard tissue development”. Co-PI with Dr. Jacqueline E. Bowman. July 2002-December 2004

\$45,000 from the Alexis de Tocqueville Institution. Grant title: “MRI study of brain and behavior.” April 1993 - September 1996

Grants awarded to my advisees:

\$7,546 from the National Science Foundation: “Defining Evolutionary Units in the Neocortex: A Quantitative Assessment of Morphogenetic Patterns in the Embryonic Human Brain,” Dissertation Improvement Grant to Daniel Glotzer. Co-PI. December 2006

\$18,068 from the Wenner-Gren Foundation for Anthropological Research: “Diffeomorphic Analysis of Human Pre- natal Neuroanatomy: A Quantitative Assessment of Morphogenetic Patterns in the Developing Neocortex,” Dissertation Fieldwork Grant to Daniel Glotzer, November 2006

Honors and awards

- March 2011 *Trustee’s Teaching Award*, Indiana University
- May 1997-July 1998 *NIH National Research Service Award*, Post-doctoral fellowship in brain imaging.
- June 1996 *Human Behavior and Evolution Society Young Investigator Award* for a talk entitled: *Is Brain Size a Causal Influence on IQ?* presented at the 1996 annual meeting at Northwestern University.
- Fall 1994 *Robert H. Lowie Graduate Scholarship* research grant, U. C. Berkeley
- Spring 1994 *Robert H. Lowie Graduate Scholarship* research grant, U. C. Berkeley
- 1993-1994 *Charles Atwood Kofoid Fellowship* for graduate study in Anthropology at the University of California at Berkeley
- Spring 1991 *1990-1991 Outstanding Graduate Student Instructor*, University of California at Berkeley
- 1989-1990 *University of California at Berkeley Regents Fellowship*
- Spring 1989 *Robert H. Lowie Graduate Scholarship* research grant, U. C. Berkeley

- Spring 1988 *Graduate Student Instructor Course Improvement Grant* from the U.C. Berkeley Committee on Teaching
- May 1986 *High honors* conferred on B.A. for work on the delineation, origin and evolutionary implications of modern human geographic variation in sexual dimorphism

Lectures and Papers Presented

Sponsored lectures and workshops

A complex adaptive systems approach to language and brain. Workshop on Complexity in Language: Developmental and Evolutionary Perspectives, sponsored by the Collegium de Lyon and Ecole Normale Supérieure de Lyon, organized by Salikoko Mufwene, Lyon, France, May 23-24, 2011

Evolution of language and the brain. Workshop on the Evolution of Human Cognition, sponsored by the Interdisciplinary Program in Cognitive Science, Georgetown University, March 18, 2011

Official discussant for *Human Biology and the Origins of Homo*, a Wenner-Gren Foundation conference organized by Susan Antón and Leslie Aiello, Sintra, Portugal, March 4-11, 2011,

Creating an online archive of high-resolution CT images of museum specimens: The Open Research Scan Archive (ORSA). Co-delivered with Janet Monge; NESPOS (Pleistocene People and Places) symposium: “Pleistocene Databases: Acquisition, Storing, Sharing”, Neanderthal Museum, Mettmann, Germany, June 10, 2010

Evolution of the Brain. 2nd Annual Neuroscience Graduate Group Student Retreat, Academy of Natural Sciences, Philadelphia, October 30, 2009

Evolution of Brain and Language. Language as a Complex Adaptive System Conference, 60th Anniversary Celebration of the journal *Language Learning*, University of Michigan-Ann Arbor, November 2008. Podcast available online at: <http://www.wiley.com/bw/podcast/lang.asp>

The evolution of the brain and the evolution of language. Department of Anthropology, Bloomington, Indiana, March 2008

The meaning of brain size: the evolution of conceptual complexity. The Human Brain Evolving: Papers in Honor of Ralph L. Holloway, Indiana University, Bloomington, Indiana, April 2007

Evolution of the brain with relevance to language. Seminar on Language, Evolution, and the Brain, International Institute of Advanced Studies, Kyoto, Japan, April 2007

What grammatical rules are least likely to emerge solely from social interactions among domain-general learning mechanisms? Language Evolution Workshop, Santa Fe Institute, Santa Fe, New Mexico, March 2007

Research on brain and behavior from an evolutionary perspective. Department of Sociology and Anthropology, James Madison University, Harrisonburg, Virginia, January, 2007.

Research on brain and behavior from an evolutionary perspective. Stone Age Institute, Bloomington, Indiana, September 2006

The evolution of brain and language. University of Michigan, Dearborn, March 2005

An evolutionary perspective on language and brain. Language Evolution Workshop, Santa Fe Institute, Santa Fe, New Mexico, March 2005

Assessing the relevance of Homo floresiensis for the evolution of hominin brain and behavior. Language Evolution Workshop, Santa Fe Institute, Santa Fe, New Mexico, March 2005

Research on brain and behavior from an evolutionary perspective. Department of Anthropology, University of California, Davis, March 2005

The evolution of conceptual complexity and its relevance to language. International Workshop on the Evolution of Cognition, University of Delaware, February 2005

The Evolution of Semantic Complexity, Workshop on Language Acquisition, Change, and Emergence, City University of Hong Kong, November 2001

Evolutionary principles and the emergence of language, Department of Psychology, Cornell University, October 2001

Neuroanatomical associations with behavior from an evolutionary perspective, Center for Cognitive Neuroscience, University of Pennsylvania, September 2001

The Emergence of Syntax in Language Evolution, Workshop on Language Acquisition and Change, City University of Hong Kong, May-June 2001

Evolutionary principles and the evolution of language, Language Emergence and Mathematical Modeling Working Group, Santa Fe Institute, Santa Fe, New Mexico, February 2001

Brain and Behavior from an Evolutionary Perspective, Connecticut College, October 28, 1999

Invited lectures

The Origin of the Modern Human Brain and Consciousness. ORIGINS: The Evolution of the Universe, the Earth, Life, and the Human Species, The Stone Age Institute and Indiana University, October 10th, 2009

Human Evolution, guest lecture, "Buried Cities" Prof. Julie Solometo, James Madison University, January 26, 2009

Anthropological Considerations in Language Acquisition. Workshop: Levels of Consciousness in Language Acquisition, Center for the Study of Complex Systems and the Cognition and Perception Division of the Department of Psychology at the University of Michigan, June 2008

Evolution of the prefrontal cortex implications for human behavioral evolution. Department of Biology, James Madison University, April 2008

Research on the evolution of brain and language. Brain and Language Lecture Series, University of Pennsylvania, February 2002

Applied correlational techniques, guest lecture, U.C. Berkeley, April 1, 1997.

Correlational techniques in bio-behavioral research, guest lecture, U.C. Berkeley, April 16, 1996.

Brain structure, function, and evolution, guest lecture, U. C. Berkeley, April 15, 1993.

Recombinant DNA technology, blood groups, and natural selection, guest lecture, U. C. Berkeley, February 13, 1992.

Linguistic paleontology: the linguistic reconstruction of prehistoric culture, guest lecture, U. C. Berkeley, November 29, 1989.

Conference papers

Differences in endocranial shape between Homo and Pongids assessed through non-rigid deformation analysis of high-resolution CT images, poster co-presented with Ralph Holloway, Janet Monge, Brian Avants, and James Gee, 80th Annual Meeting of the American Association of Physical Anthropologists, Minneapolis, Minnesota, April 2011

The LBI endocast: un-adorned, un-smoothed, a replication study based on the original CT scan data, poster co-presented with R.L. Holloway and J. Monge, 80th Annual Meeting of the American Association of Physical Anthropologists, Minneapolis, Minnesota, April 2011

New 3D automatic methods for the analysis of the endocranial shape and its relationship with ectocranial structures: assessment and preliminary experiments, poster co-presented with S. Prima, R. Holloway, G. Subsol, B. Combes, J. Braga and J. Monge, 80th Annual Meeting of the American Association of Physical Anthropologists, Minneapolis, Minnesota, April 2011

The importance of exploring non-linguistic functions of human brain language areas for explaining language evolution. Poster presented at EVOLANG8: The 8th International Conference on the Evolution of Language, Utrecht, Netherlands, April 2010.

Creating statistical atlases of modern primate endocranial morphology using non-rigid deformation analysis of high-resolution CT images. Talk co-authored with J. Monge, R. L. Holloway, B.B. Avants, and J.C. Gee, 79th Annual Meeting of the American Association of Physical Anthropologists, Albuquerque, New Mexico, April 2010

The Hobbit Brain: some questions about its 'derived' features. Talk co-authored with R. L. Holloway (senior author) and J. Monge, 79th Annual Meeting of the American Association of Physical Anthropologists, Albuquerque, New Mexico, April 2010

An atlas of modern human cranial morphology constructed via non-rigid deformation analysis of high-resolution CT images. Poster co-presented with J. Monge, B.B. Avants, and J.C. Gee, 78th Annual Meeting of the American Association of Physical Anthropologists, Chicago, Illinois, April 2009

Endocast asymmetry in pongids assessed via non-rigid deformation analysis of high-resolution CT images. Poster co-presented with R. L. Holloway, B. B. Avants, and J. C. Gee, 77th Annual Meeting of the American Association of Physical Anthropologists, Columbus, Ohio, April 2008

Sex differences in cranial form assessed via non-rigid deformation analysis of high-resolution CT images. Poster co-presented with J. Monge, B. B. Avants, D. Glotzer, J. C. Gee, 76th Annual Meeting of the American Association of Physical Anthropologists, Philadelphia, Pennsylvania, March 2007

4-dimensional diffeomorphic modeling: A novel approach for investigating human embryonic brain development. Poster co-presented with L.D. Glotzer, 76th Annual Meeting of the American Association of Physical Anthropologists, Philadelphia, Pennsylvania, March 2007

Scaling of brain and body weight within modern and fossil hominids: implications for the Flores specimen. Talk co-authored with John S. Allen, 75th Annual Meeting of the American Association of Physical Anthropologists, Anchorage, Alaska, March 2006

The brain endocast of Homo floresiensis: microcephaly and other issues... Talk co-authored with R. L. Holloway, P. Brown, J. Monge, 75th Annual Meeting of the American Association of Physical Anthropologists, Anchorage, Alaska, March 2006

A new method for assessing endocast morphology: calculating local curvature from 3D CT images. Talk co-authored with B. B. Avants, J. C. Gee, J. Monge, J. E. Lewis, and R. L. Holloway, 74th Annual Meeting of the American Association of Physical Anthropologists, Milwaukee, Wisconsin, April 2005

Analysis of chimp-human brain differences via non-rigid deformation of 3D MR images. Talk co-authored with B. B. Avants, J. C. Gee, L. D. Glotzer, and M. J. Sheehan, 73rd Annual Meeting of the American Association of Physical Anthropologists, Tampa, Florida, April 2004

Validation of plaster endocast morphology through 3D CT image analysis. Talk co-authored with B. Avants, J. C. Gee, J. Monge, J. E. Lewis, and R. L. Holloway, 73rd Annual Meeting of the American Association of Physical Anthropologists, Tampa, Florida, April 2004.

Endocranial capacity estimated from 3-D CT: Methodological issues. Talk co-authored with J. E. Lewis and J. Monge, 73rd Annual Meeting of the American Association of Physical Anthropologists, Tampa, Florida, April 2004

The CT Database at the University of Pennsylvania Museum. Talk co-authored with J. Monge, J. E. Lewis and D. Glotzer, 73rd Annual Meeting of the American Association of Physical Anthropologists, Tampa, Florida, April 2004

Geographic patterns of nasal morphology in Homo. Talk co-authored with M. Meyer and J. Blumenfeld, 73rd Annual Meeting of the American Association of Physical Anthropologists, Tampa, Florida, April 2004

The Penn Cranial CT project: creating an online archive of high-resolution CT images of museum specimens. Poster co-presented with Janet Monge, Annual Meeting of the Natural Science Collections Alliance, Berkeley, California, June 2003

Evolution of the prefrontal cortex: A stereological analysis of primate brain MRI scans. Poster co-presented with L. Daniel Glotzer, 72nd Annual Meeting of the American Association of Physical Anthropologists, Tempe, Arizona, April 2003

The relevance of brain size for understanding the evolution of semantic complexity, 4th Annual Evolution of Language Conference, Harvard University, March 2002

Modeling evolution of language without “mind reading”, Co-authored with Craig Martell, Human Behavior and Evolution Society Annual Meeting, London, U.K., June 2001

A neural net model of word learning in children that does not require language-specific innate constraints, Co-authored with Craig Martell, Human Behavior and Evolution Society Annual Meeting, London, U.K., June 2001

The effects of different brain indices on brain/behavior relationships: a within-species study of humans, 69th Annual Meeting of the American Association of Physical Anthropologists, San Antonio Texas, April 2000

Relationships between corpus callosum morphology and behavior in normal human females, 67th Annual Meeting of the American Association of Physical Anthropologists, Salt Lake City, Utah, April 1998.

Brain Anatomy and Behavior in an Evolutionary Perspective, 9th Annual Meeting of the Human Behavior and Evolution Society, University of Arizona, Tucson, June 1997.

Is Brain Size a Causal Influence on IQ? 8th Annual Meeting of the Human Behavior and Evolution Society, Northwestern University, Evanston, Illinois, June 28 - July 2, 1996.

Is syntax simply an emergent characteristic of the evolution of semantic complexity? 7th Annual Meeting of the Human Behavior and Evolution Society, University of California, Santa Barbara, June 28 - July 2, 1995.

Brain size scaling and body composition in mammals: Implications for the sex difference in brain size in Homo sapiens, 64th Annual Meeting of the American Association of Physical Anthropologists, Oakland, California, April 1995.

Comparison of intraspecific craniometric variability in Homo, Pan, and Gorilla, 58th Annual Meeting of the American Association of Physical Anthropologists, California, April 1989.

Service and Outreach Lectures

Using computers to teach physical anthropology: the Blind Watchmaker evolution simulation software, Topics on Teaching: Displaying Computer Text and Images, U.C. Berkeley Office of Educational Development, April, 1989.

Teaching

- | | |
|--------------------------|--|
| Fall 2009 to present | Indiana University, Department of Anthropology: Graduate: “Evolution of Cognition,” “Brain Evolution,” “Language Evolution.” Undergraduate: “Introduction to Evolution of the Brain,” “Human Origins and Prehistory” |
| Fall 2007 to 2009 | James Madison University, Department of Sociology and Anthropology: Undergraduate: “Introduction to Biological Anthropology,” “Human Evolution,” “Evolution of the Brain,” “Human Variation and Adaptation,” “The Discipline of Anthropology” (team-taught collaborative effort among all the anthropology faculty at JMU) |
| Fall 2005 to Summer 2007 | University of Michigan-Dearborn, Department of Behavioral Sciences: Undergraduate: “Introduction to Anthropology,” “Human Evolution,” “Language and Society,” “Evolution of the Brain,” “Race and Evolution,” “Psychological Anthropology” |
| Fall 1998 to Spring 2005 | University of Pennsylvania, Department of Anthropology: Graduate courses: “Evolution of Brain and Behavior,” “Perspectives on the Evolution of Human Behavior.” Undergraduate courses: “Introduction to Evolution of the Brain,” “Evolution of Behavior,” “Human Biology,” “Introduction to Human Evolution.” |
| Fall 1996 | University of California, San Francisco: <i>Instructor</i> for “Gross Anatomy and Embryology” under the direction of Dr. Diane Barber, Department of Oral Biology |
| Spring 1995 | University of California, Berkeley, Department of Anthropology: <i>Instructor</i> (GSI IV) for “Evolution of Human Behavior” |
| Summer and Fall 1991 | University of the Pacific School of Dentistry, Department of Anatomy: <i>Clinical Instructor</i> for “Gross Anatomy” under the direction of Dr. Jack Chamberlain. |

Fall 1987 to Spring 1993 University of California, Berkeley, Department of Anthropology: *Graduate Student Instructor* for 11 classes including: “Introduction to Physical Anthropology” and “Current Issues in Anthropological Thought”

Student Advising

Dissertation Chair:

Marc Meyer, 2005, “Functional biology of the Homo erectus axial skeleton from Dmanisi, Georgia,” 2005, University of Pennsylvania
 Dan Glotzer, in progress, “4-D diffeomorphic modelling of pre-natal morphogenesis”

Dissertation & Masters thesis committee member:

Indiana University:

Robert Mahaney, Shawn Hurst, Delanie Hurst, Mackenzie Loyet

University of Pennsylvania:

James Gallagher (Master of Liberal Arts), Dan Glotzer, Susan Haun, Jason Lewis, Jane Kauer, Marc Meyer, Melissa Murphy, Seran Schug, Steven Schwartz, Susan Staggs

Independent research projects:

Graduate students

Indiana University:

Robert Mahaney, Spring 2010: “Analysis of Tabun lithics”

University of Pennsylvania:

Melanie Chang, 2003: “3D analysis of frontal bone morphology”

Jason Lewis, Summer 2003-present: “Acquisition and analysis of 3D laser scans of 3.2 MYA hominid fossils”

Jason Lewis, Fall 2002-present: “CT analysis of cranial morphology”

Marc Meyer, Spring 2002: “Cerebellum morphology and behavior: and MRI study of healthy subjects”

Marc Meyer, Fall 2001: “Evolution of the cerebellum”

Dan Glotzer, Spring 2001-present: “Comparative analysis of prefrontal cortex surface area and volume in primates”

James Gallagher, Spring 2001, “Evolution of Language”

Seran Schug, Spring 2001, “Neurobiology of Body Image”

Undergraduate students:

James Madison University:

Joanna Bickham, Anthropology honor’s thesis, Spring 2008: “Origin and Evolution of the White Sclera of the Human Eye”

University of Michigan-Dearborn:

Leah Canvasser, Fall 2006-Spring 2007: “Hand Preference in Orangutans, Allen Swamp Monkeys, and Tamarins”

Kayla DeMarco, Fall 2006-Spring 2007: “Effects of Facial Preferences on the Likelihood of Infants Eliciting Care from Adults”

University of Pennsylvania:

- R. Erik Malmgren-Samuel, independent research, Fall 2003 – Spring 2004: “An Evolutionary Perspective on ADHD: A Cross-Cultural Study of Associations with Degrees of Media Exposure”
- Yuri Kruman, Anthropology honor’s thesis, Fall 2003-Spring 2004: “Comparative analysis of primate corpus callosum sexual dimorphism: An MRI study”
- Michael Sheehan, independent research, Summer 2003-present: “Prefrontal cortex size in primates: 3D image analysis”
- Jason Lewis, independent research, Fall 2002 – Spring 2003: “Endocranial morphology derived from high-resolution CT”
- Jasmine Maldonado, Anthropology honor’s thesis, Fall 2001-Spring 2002: “Mate Jealousy: Comparison of Heterosexual and Homosexual Attitudes”
- Rachel Reader, Anthropology honor’s thesis, Fall 2001-Spring 2002: “The evolution of language and music”
- Elana Leventhal, Anthropology honor’s thesis, Fall 2001-Spring 2002: “Perspectives on death and dying”
- Rachel Sherman, Cognitive Science major honor’s thesis, Fall 2001-Spring 2002: “How dolphins see the world: perception and cognition in a large-brained aquatic mammal”
- Maia Jachimowicz, independent research, Fall 2001-Spring 2002: “Detailed analysis of gestures in chimps: an empirical study”
- Piper Silverman, independent research, Fall 2001-Spring 2002: “Prefrontal cortex surface area in a comparative perspective”
- Stephanie Langin-Hooper, independent research, Spring 2001-Spring 2002: “Investigations into prefrontal surface area and volume in human and non-human primate brains”
- Neil Sanuck, Biological Basis of Behavior major thesis, Spring 2001-Spring 2002 “Corpus callosum morphology and behavior: advances in analysis”
- Jamie Pinto, Anthropology honor’s thesis, Fall 2000-Spring 2001: “Risk taking and mate selection: An evolutionary approach”
- Daniel Finkel, independent research, Spring 2000, “Evolution of the Visual Cortex: An Investigation of Associations with External Orbit Size”

Service*Service to the profession:*

Co-director of the Open Research Scan Archive at Penn, which provides access to over 4000 high resolution research scans of skeletal material free to researchers worldwide (<http://www.indiana.edu/~orsa/>; <http://plum.museum.upenn.edu/~orsa/Welcome.html>)

Peer-reviewer for articles submitted to:

American Journal of Physical Anthropology

Journal of Human Evolution

European Journal of Neuroscience

Neuroscience & Biobehavioral Reviews

Brain, Behavior and Evolution

Homo: Journal of Comparative Human Biology

Complexity

Interaction Studies: Social Behaviour and Communication in Biological and Artificial Systems

Peer-reviewer for grants submitted to:

National Science Foundation

Leakey Foundation

Annual Meeting of the American Association of Physical Anthropologists: chair of sessions on Human and Primate Brain Evolution (2006, 2007)

Organizations and committees at Indiana University:

Cognitive Science Program, 2010-present

Interdepartmental Search Committee, 2010-2011

Graduate Admissions Committee, Department of Anthropology, 2010-2011

Graduate Affairs Committee, Department of Anthropology, 2009-2010

Darwin Club faculty sponsor and organizer, Department of Anthropology, 2010-present

AI and Student Review and AIships Assignments Committee, Department of Anthropology, 2009-2010

Organizations and committees at James Madison University:

Human Science Minor Coordinator, 2008-2009

Human Science Minor organizing committee, 2007-2008

JMU Institutional Animal Care and Use Committee (IACUC), 2008-2009

Anthropology Program Committee, 2007-2009

Dept. of Sociology & Anthropology co-representative on the General Education - Cluster Three (Natural World) University Committee, , 2008-2009

Anthropology Committee on the Madison College Reorganization Proposal, 2008-2009

3 search committees, 2007-2009

Lambda Alpha Faculty Representative, 2008-2009

Anthropology Club faculty co-sponsor, , 2007-2009

Organizations and committees at the University of Michigan-Dearborn:

Library liaison for Anthropology Discipline

Undergraduate Anthropology Association - faculty advisor

Anthropology Summer Field School Scholarship Competition Committee

Student Intern Advisor (Winter 2006, Fall 2006, and Winter 2007)

Organizations and committees at the University of Pennsylvania:

Consulting Scholar, Physical Anthropology Section, University of Pennsylvania Museum of Archaeology and Anthropology, 2005-present

Anthropology Graduate Group member

Biological Basis of Behavior Major member

Institute for Research in Cognitive Science member

Center for Cognitive Neuroscience member

Museum Web Development Committee

Museum Web Advisory Committee

Anthropology Field Funds Committee

Anthropology Award Committee (selection of best senior theses)

Four separate search committees within Anthropology

Professional Memberships

Human Behavior and Evolution Society
American Association of Physical Anthropologists

References

Professor Vincent Sarich, Department of Anthropology, 232 Kroeber Hall, University of California, Berkeley, 94720-3710, USA. Phone: (510) 527-2460; e-mail: sarich@sscl.berkeley.edu

Associate Professor Clark L. Erickson, Department of Anthropology, University of Pennsylvania, Room 323 Museum, 3260 South St., Philadelphia, PA 19104-6398, USA. Phone: 215-898-2282; e-mail: cerickso@sas.upenn.edu

Professor William S.-Y. Wang, Department of Electronic Engineering, Room 404, Ho Sin Hang Engineering Building, Chinese University of Hong Kong, Shatin, N.T., Hong Kong; and the Department of Linguistics, 2222 Piedmont Avenue, University of California, Berkeley, 94720, USA. Professor Wang is currently in Hong Kong, where he can be reached by e-mail: wsywang@ee.cuhk.edu.hk, or phone: 011-852-2609-8456

Dr. Barry Bogin, Centre for Human Development and Ageing, Department of Human Sciences, Loughborough University, Leicestershire, LE11 3TU, United Kingdom. Phone: +44 (0)1509 228819; e-mail: B.A.Bogin@lboro.ac.uk

Adjunct Assistant Professor Janet Monge, Department of Anthropology, University of Pennsylvania, Room 323 Museum, 3260 South St., Philadelphia, PA, 19104-6398, USA. Phone: (215) 898-4503; e-mail: jmonge@sas.upenn.edu

Associate Professor James C. Gee, Department of Radiology, University of Pennsylvania, 3600 Market370, Philadelphia, Pennsylvania, 19104-2644, USA. Phone: (215) 662-7109; e-mail: gee@rad.upenn.edu