

DANIEL J. MILLER

111 21st Avenue South
301 Wilson Hall
Nashville, TN 37240

Phone: 615.810.5613
Office: 615.322.5527
Email: daniel.j.miller@vanderbilt.edu

EDUCATION:

2017: Ph.D., Psychology, Vanderbilt University
2011: M.A., Anthropology, George Washington University
2007: B.A., Philosophy & Anthropology, Saint Louis University

AWARDS, HONORS, & INTELLECTUAL PROPERTY:

2016 Symposium Co-organizer for the American Association of Physical Anthropologists: *Innovative approaches to human brain evolution: molecules to systems*. (with Todd M. Preuss, Chet C. Sherwood & Aida Gomez-Robles)

2015 “Anatolution,” a software application solution for anatomical studies of the central nervous system (Disclosed to Vanderbilt University Nov. 2015)

2015 Vanderbilt Graduate Student Research Award (\$2,395)

2014 – National Eye Institute Training Grant Appointee, Vanderbilt University (\$72,960)

2011-2014: Graduate Teaching Assistantship (Psychological Sciences), Vanderbilt University (\$35,800)

2011 Proprietor: Yakovlev-Gibson Brain Collection; gifted by Kathleen Gibson

2010-2011: Graduate Teaching Assistantship (Biological Anthropology), George Washington University (\$7,500)

2010: PI; “CA2 Distribution: Brain Connectivity and Plasticity in Human Evolution;” The Lewis Cotlow Award, Department of Anthropology, George Washington University (\$1,300)

2007 Saint Louis University: *Magna cum laude* & Dean’s List

RESEARCH PUBLICATIONS

2016 Liao CC, Qi H, Reed JL, **Miller DJ**, Kaas JH

Congenital foot deformation alters the topographic organization in the primate somatosensory system.

Brain Structure and Function 221(1):383-406.

- 2015 Cooke DF, Stepniewska I, **Miller DJ**, Kaas JH, Krubitzer L
Reversible deactivation of motor cortex reveals functional connectivity with posterior parietal cortex in the prosimian galago (*Otolemur garnetti*).
Journal of Neuroscience 35(42):14406-22.
- 2014 **Miller DJ**, Balaram P, Young NA, Kaas JH
Three counting methods agree on cell and neuron number in chimpanzee primary visual cortex.
Frontiers in Neuroanatomy 8:36. Doi: 10.3389/fnana.2014.00036.
- 2013 **Miller DJ**, Lackey EP, Hackett TA, Kaas JH
Development of myelination and cholinergic innervation in the central auditory system of a prosimian primate (*Otolemur garnetti*).
Journal of Comparative Neurology 521(16):3804-16.
- 2012 **Miller DJ**, Duka T, Stimpson CD, Schapiro SJ, Baze WB, McArthur MJ, Fobbs AJ, Sousa AM, Sestan N, Wildman DE, Lipovich L, Kuzawa CW, Hof PR, Sherwood CC.
Prolonged myelination in human neocortical evolution.
Proceedings of the National Academy of Science U S A. 109(41):16480-5.

REVIEWS & BOOK CONTRIBUTIONS

- 2015 Herculano-Houzel S, von Bartheld CS, **Miller DJ**, Kaas JH
How to count cells: the advantages and disadvantages of the isotropic fractionator compared with stereology. *Cell Tissue Research*. Mar 4, Epub
- 2014 **Miller DJ**, Konopka G
Evolution and development of language. In: *Advances in Evolutionary Developmental Biology*. J. Streelman (ed), Wiley Publishing
- 2011 Minor Contributing Editor for *Wiley-Blackwell Encyclopedia of Human Evolution* (B.A. Wood, ed) Wiley-Blackwell Publishers

PUBLISHED ABSTRACTS

- 2016: **Miller DJ**, Bijlani R, Kaas JH
Evolutionary neurocartography: mapping sensory system organization in human evolution
American Association of Physical Anthropologists
- 2015: Krubitzer L, Cooke DF, Stepniewska I, **Miller DJ**, Kaas JH

Reversible deactivation of motor cortex reveals functional connectivity with posterior parietal cortex in the prosimian galago (Otolemur garnetti).
International Brain Research Organization

- 2015: **Miller DJ**, Pathak R, Balaram P, Kaas JH
Neuron and glia density of the primary visual cortex in mammals.
American Association of Physical Anthropologists
- 2014: **Miller DJ**, Pathak R, Kaas JH
Cell number and volume of the primary visual cortex in primates.
Society for Neuroscience
- 2014: Stepniewska I, **Miller DJ**, Friedman R, Kaas JH
Interactions between parallel parietal-frontal networks involved in complex motor behaviors.
Society for Neuroscience
- 2014: Liao CC, Qi H, Reed JL, **Miller DJ**, Kaas JH
Congenital foot deformation alters the topographic organization in the primate somatosensory system.
Society for Neuroscience
- 2014: Cooke DF, Stepniewska I, **Miller DJ**, Kaas JH, Krubitzer L
Reversible deactivation of motor cortex reveals functional connectivity with posterior parietal cortex in the prosimian galago (Otolemur garnetti).
Society for Neuroscience
- 2012: **Miller DJ**, Lackey EP, Hackett TA, Kaas JH
Development of myelination and cholinergic innervation in the central auditory system of the prosimian primate (Otolemur garnetti).
Society for Neuroscience
- 2011: **Miller DJ**, Taylor N, Preuss TM
Increased expression of carbonic anhydrase 2 in the frontal cortex in human evolution
American Association of Physical Anthropologists
- 2010: **Miller DJ**, Duka T, Stimpson CD, Schapiro SJ, Baze WB, McArthur MJ, Fobbs AJ, Hof PR, Sherwood CC
Development of myelinated axon length density and myelin-related glycoprotein expression in the neocortex of chimpanzees compared to humans
Society for Neuroscience
- 2007: **Miller DJ**, Barber M, MacKinnon KC

Technology and sociality: rationality in hunter-gatherer and industrial societies.

Saint Louis Area Undergraduate Research Symposium, Washington University in Saint Louis

PUBLIC UNDERSTANDING OF SCIENCE

News stories covering research findings in:

PNAS Science Sessions: What makes us human? (01/2013); *Neurology Today: How does myelination maturation affect thought and behavior?* (11/2012); *The Lancet Neurology* (10/1/2012); *ScienceDaily* (9/25/2012); *ScienceNOW* (9/24/2012)

PROFESSIONAL SERVICE

Ad hoc article reviewer, *Journal of Visualized Experiments*

Ad hoc article reviewer, *Frontiers in Systems Neuroscience*

Ad hoc article reviewer, *Journal of Neural Regeneration Research*

PROFESSIONAL SOCIETIES

2013 Member; The J.B. Johnston Club
 2013 Member; American Psychological Association
 2012 Member; The Cajal Club
 2011 Member; American Association for the Advancement of Science
 2010 Member; Society for Neuroscience
 2009 Member; American Association of Physical Anthropologists

TEACHING EXPERIENCE

2015 Adjunct Lecturer, "Phenotypic specializations of the human brain"
 Vanderbilt University, Department of Biology

2015 Adjunct Lecturer, "Evolution of human behavioral foraging ecology"
 Vanderbilt University, Department of Psychological Sciences

2013, 2014: Teaching Assistant: "Biological Basis of Mental Disorders" (Spring, Spring)
 Vanderbilt University, Department of Psychological Sciences

2013 Adjunct Lecturer, "Evolution of Human Brain Development"
 Vanderbilt University, Department of Biology

2013 Adjunct Lecturer, "Mammalian Brain Evolution"
 Vanderbilt University, Department of Psychological Sciences

2013 Laboratory Preceptor: "Neuroanatomy" (Fall)
 Vanderbilt University, Department of Psychological Sciences

- 2013 Teaching Assistant: “Neuroanatomy” (Fall)
Vanderbilt University, Department of Psychological Sciences
- 2012, 2013 Adjunct Lecturer, “Human Post-cranial Evolution”
Vanderbilt University, Department of Biology
- 2012, 2013 Adjunct Lecturer, “Human Brain Evolution”
Vanderbilt University, Department of Biology
- 2012 Adjunct Lecturer, “Evolution of the modern human phenotype”
Vanderbilt University, Department of Psychological Sciences
- 2012 Teaching Assistant: “Neurobiology of Behavior” (Fall)
Vanderbilt University, Department of Biology
- 2010-2011 Laboratory Preceptor: “Biological Anthropology” (Fall, Spring)
George Washington University, Department of Anthropology
- 2010-2011 Teaching Assistant: “Biological Anthropology” (Fall, Spring)
George Washington University, Department of Anthropology
- 2007 Laboratory Preceptor: “English as a second language” (Spring)
Saint Louis University, Department of Languages, Literatures and Cultures

LABORATORY EXPERIENCE

- 2011 – Jon H. Kaas Laboratory, The Vanderbilt University, Department of Psychological Sciences. PI Jon H. Kaas.
- 2011 The University of Texas Southwestern Medical Center, Division of Neuroscience. PI Genevieve Konopka.
- 2010 Yerkes National Primate Research Center, Division of Neuroscience and Center for Behavioral Neuroscience, Emory University. PI Todd M. Preuss
- 2009-2011 Laboratory for Evolutionary Neuroanatomy. Department of Anthropology, George Washington University. PI Chet Sherwood.

STUDENTS SUPERVISED

Research Internships

- Denise Wanyana, Vanderbilt Undergraduate (2016 Spring – 2017 Spring)
Dorothy Keissler, Vanderbilt Undergraduate (2016 Spring – 2017 Spring)
Joseph Wang, Vanderbilt Undergraduate (2015 Fall – 2016 Spring)
David Li, Vanderbilt Undergraduate (2015 Fall – 2016 Spring)
Andrew Marx, Vanderbilt Undergraduate (2015 Fall – 2016 Spring)

Shuaipeng Zhang, Vanderbilt Undergraduate (2015 Fall – 2016 Spring)
Nathan Honold, Vanderbilt Undergraduate (2015 Fall – 2016 Spring)
John Clifton, Vanderbilt Undergraduate (2015 Summer – 2017 Spring)
Anna Huang, Vanderbilt Undergraduate (2014 Fall – 2017 Spring)
Rahul Pathak, Vanderbilt Undergraduate (2014 Spring – 2015 Spring)
Rohit Nair, Vanderbilt Undergraduate (2013 Fall – 2015 Spring)
Brooke F. Ealey, Vanderbilt Undergraduate (2013 Fall – 2015 Spring)
Anthony Cai, Vanderbilt Undergraduate (2014 Spring)
Ryan Stahr, Vanderbilt Undergraduate (2013 Spring)
Ashley Wade-Vuturo, Vanderbilt Undergraduate (2012 Fall – 2013 Spring)

Undergraduate Honors Theses

Richa Bijlani, Vanderbilt Undergraduate (2015 Spring – 2017 Spring)
Roshan Poudel, Vanderbilt Undergraduate (2014 Fall – 2017 Spring)
Elizabeth P. Lackey, Vanderbilt Undergraduate (2012 Fall – 2014 Spring)