

Jamie Lynn Reed, Ph.D.

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PERSONAL INFORMATION

Date of Birth: August 19, 1980
Birthplace: Indianapolis, IN
Citizenship: USA

EDUCATION

Ph.D., Neuroscience, December 2009, Vanderbilt University, Nashville, TN
Under the direction of Dr. Jon H. Kaas
Dissertation Title: Spatiotemporal Stimulus Effects on Response Properties of Neurons in the Primary Somatosensory Cortex of Owl Monkeys

B.S., Biology, May 2002, Indiana University, Bloomington, IN
B.S., Psychology, May 2002, Indiana University, Bloomington, IN
Minor, Chemistry, May 2002, Indiana University, Bloomington, IN
Graduated with distinction and completed honors program.

PROFESSIONAL EXPERIENCE

Vanderbilt University, Postdoctoral Scholar, Research	2010 - present
Vanderbilt University, Graduate Research Associate	2002 - 2009
Indiana University, Student Research Assistant	1998 - 2002

GRANTS, FELLOWSHIPS, HONORS, AND AWARDS

Completed Research Support:

Ruth L. Kirschstein National Research Service Award NIH/NINDS 1F31 NS053231-01A2 Reed (PI) Kaas (Sponsor) Spatial-temporal stimulus interactions in primate S1 hand cortex neurons Examined neuronal responses to stimuli delivered to paired sites across the hand or hands to investigate how neurons in somatosensory cortex respond to a stimulus in the receptive field, in the context of a distant stimulus, as part of foundational work to interpret lesion experiments.	02/07 – 12/09
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Fellowships:

NIH Neuroscience Training Grant, Vanderbilt University T32-MH64913	08/02 – 08/04
University Graduate Fellowship, Vanderbilt University	2002 - 2006

GRANTS, FELLOWSHIPS, HONORS, AND AWARDS (continued)

Jamie L. Reed

Awards:

Christopher & Dana Reeve Foundation Research Award	05/12-12/13
Postdoctoral Travel Award Nominee, Middle Tennessee Chapter Society for Neuroscience	May 2010
Fine Science Tools Travel Award, Society for Neuroscience Meeting	Oct. 2009
Committee for Women in Neuroscience Graduate Student Travel Award, Society for Neuroscience Meeting	Nov. 2008
Graduate School Travel Award, Society for Neuroscience Annual Meeting, Vanderbilt University	2006, 2007
Honors Scholarship, Indiana University	1998 - 2002
Indiana University Faculty Award, Indiana University	1998 - 2002

Service, Leadership Activities, and Honors:

Officers' Board, Middle TN Society for Neuroscience	2011-present
Co-Editor-in-Chief, Vanderbilt Medical Center Editors' Club	2011-2012
Student Leadership and Service Award, Neuroscience Graduate Program, Vanderbilt University	June 2008
Co-founded and organized "Neurophysiology Discussion Group" Journal Club Vanderbilt University	2005 - 2008
Elected to Neuroscience Steering Committee, Integrative Neuroscience Student Representative, Vanderbilt University	2005 - 2008
Elected to Neuroscience Student Organization, Secretary, Treasurer Vanderbilt University	2004 - 2006
Beckman Scholars Program (to support scientific development), Member Indiana University	2001 - 2002
National Society of Collegiate Scholars, Academic Honor Society	1999 - 2002
Women In Science Program, Peer Mentor and Student Mentee Indiana University	1999 - 2002
Honors College Mentoring Program, Peer Mentor Indiana University	1999 - 2000

Peer-Reviewed Research Articles (12 total, 6 first-author, 1 co-first-author):

*Qi HX, *Reed JL, Gharbawie OA, Burish MJ, and Kaas JH. 2014. Cortical neuron response properties are related to lesion extent and behavioral recovery after sensory loss from spinal cord injury in monkeys. *Journal of Neuroscience*. 34(12): 4345-4363. *Authors contributed equally.

Baldwin MK, Wei H, Reed JL, Bickford ME, Petry HM, and Kaas JH. 2013. Cortical projections to the superior colliculus in tree shrews (*Tupaia belangeri*). *Journal of Comparative Neurology*. 521(7):1614-1632.

Reed JL, Pouget P, Qi H-X, Zhou Z, Bernard MB, Burish MJ, and Kaas JH. 2012. Effects of spatiotemporal stimulus properties on spike timing correlations in owl monkey primary somatosensory cortex. *Journal of Neurophysiology*. 108(12): 3353-3369.

Reed JL, Qi HX, and Kaas JH. 2011. Spatiotemporal properties of neuron response suppression in owl monkey primary somatosensory cortex when stimuli are presented to both hands. *Journal of Neuroscience*. 31(10): 3589-3601.

Baldwin MK, Wong P, Reed JL, and Kaas JH. 2011. Superior colliculus connections with visual thalamus in gray squirrels (*Sciurus carolinensis*): evidence for four subdivisions within the pulvinar complex. *Journal of Comparative Neurology*. 519(6): 1071-1094.

Reed JL, Qi HX, Pouget P, Burish MJ, Bonds AB, and Kaas JH. 2010. Modular processing in the hand representation of primate primary somatosensory cortex coexists with widespread activation. *Journal of Neurophysiology*. 104(6): 3136-3145.

Reed JL and Kaas JH. 2010. Statistical analysis of large-scale neuronal recording data. *Neural Networks*. 23:673-684.

Reed JL, Qi HX, Zhou Z, Bernard MR, Burish MJ, Bonds AB, and Kaas JH. 2010. Response properties of neurons in primary somatosensory cortex of owl monkeys reflect widespread spatiotemporal integration. *Journal of Neurophysiology*. 103: 2139-2157.

Reed JL, Pouget P, Qi H-X, Zhou Z, Bernard MB, Burish MJ, Haitas J, Bonds AB, and Kaas JH. 2008. Widespread spatial integration in primary somatosensory cortex. *Proceedings of the National Academy of Sciences USA*. 105(29): 10233-10237.

Remple MS, Reed JL, Stepniewska I, Lyon DC, and Kaas JH. 2007. The organization of frontoparietal cortex in the tree shrew (*Tupaia belangeri*) II: Connectional evidence for a frontal-posterior parietal network. *Journal of Comparative Neurology*. 501(1): 121-149.

Remple MS, Reed JL, Stepniewska I, and Kaas JH. 2006. The organization of frontoparietal cortex in the tree shrew (*Tupaia belangeri*) I: Architecture, microelectrode maps, and corticospinal connections. *Journal of Comparative Neurology*. 497(1): 133-154.

Gulley JM, Reed JL, Kuwajima M, and Rebec GV. 2004. Amphetamine-induced behavioral activation is associated with variable changes in basal ganglia output neurons recorded from awake, behaving rats. *Brain Research*. 1012: 108-118.

Review Article:

Qi H, Kaas JH, **Reed JL**. 2014. The reactivation of somatosensory cortex and behavioral recovery after sensory loss in mature primates. *Frontiers in Systems Neuroscience*. 8:84. doi: 10.3389/fnsys.2014.00084.

Published Abstracts (20 total, 9 first-author):

Reed JL, Qi H-X, Gharbawie OA, Liao CC, Kaas JH. Neuron response properties in area 3b are nearly normal after behavioral recovery from dorsal column lesions of the spinal cord in monkeys. Program No. 168.27. 2013 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2013. Online.

Qi H-X, Liao C-C, **Reed JL**, Kaas JH. VGLUT2 expression in the dorsal column nuclei of the brainstem is altered after dorsal column section in primates. Program No. 168.24. 2013 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2013. Online.

Reed JL, Qi H-X, Kaas JH. Ipsilateral responses and interhemispheric interactions in area 3b after dorsal column spinal cord injury in New World monkeys. Program No. 883.21. 2012 Neuroscience Meeting Planner. New Orleans, LA: Society for Neuroscience, 2012. Online.

Qi H-X, **Reed JL**, Bui T, Chen LM, Kaas JH. Longitudinal fMRI and behavioral recovery after sensory loss from the hand of adult monkeys. Federal European Neuroscience Society (FENS) Forum Abstracts A-471-0142-02394, 2012.

Reed JL, Qi H, Kaas JH. Comparison of firing rates and spike timing correlations of area 3b neurons in normal monkeys and monkeys with incomplete lesions of the dorsal columns of the spinal cord. Program No. 74.18. 2011 Neuroscience Meeting Planner. Washington, DC: Society for Neuroscience 2011. Online.

Reed JL, Qi H, Pouget P, and Kaas JH. Response field properties of area 3b neurons in normal monkeys and monkeys with incomplete lesions to the dorsal column of the spinal cord. Program No. 284.12. 2010 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience 2010. Online.

Baldwin MK, **Reed JL**, Young NA, and Kaas JH. Cortical projections to the superior colliculus in tree shrews. Program No. 690.6. 2010 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience 2010. Online.

Qi H, Gharbawie OA, **Reed JL**, Burish MJ, Chen L, and Kaas JH. Impairment and recovery of hand use after sensory loss in squirrel monkeys. Federal European Neuroscience Society (FENS) Forum Abstracts, volume 5, 110.30, 2010.

Baldwin MK, Wong P, **Reed JL**, and Kaas JH. Superior colliculus connections with the visual pulvinar in grey squirrels. Program No. 848.18. 2009 Neuroscience Meeting Planner. Chicago, IL: Society for Neuroscience 2009. Online.

Published Abstracts (continued):

Qi H, **Reed JL**, Gharbawie OA, Burish MJ, Zhou Z, Bernard MR, Bonds AB, and Kaas JH. Spinal cord injury and multiple approaches of evaluation: behavioral consequences, neuronal response properties in deprived somatosensory cortex, and immunocytochemical changes in the brainstem and spinal cord. Program No. 563.9. 2009 Abstract Neuroscience Meeting Planner. Chicago, IL: Society for Neuroscience 2009. Online.

Reed JL, Qi H, Zhou Z, Bernard MR, Bonds AB, and Kaas JH. Spatiotemporal properties of interhemispheric interactions in the primary somatosensory cortex hand representation of owl monkeys. Program No. 656.11. 2009 Neuroscience Meeting Planner. Chicago, IL: Society for Neuroscience 2009. Online.

Reed JL, Qi H, Pouget P, Zhou Z, Bernard MR, Burish MJ, Bonds AB, and Kaas JH. Spatio-temporal integration in primary somatosensory cortex hand representation of owl monkeys. Program No. 178.2. 2008 Abstract Viewer/Itinerary Planner. Washington DC: Society for Neuroscience 2008. Online.

Qi H-X, **Reed JL**, Zhou Z, Gharbawie OA, Burish MJ, Bernard MR, Bonds AB, and Kaas JH. Multielectrode single unit recording from deprived somatosensory cortex after incomplete dorsal column lesion of the cervical spinal cord in monkeys. Federal European Neuroscience Society (FENS) Forum Abstracts, volume 4, 2008.

Reed JL, Qi H, Pouget P, Zhou Z, Burish MJ, Bernard MR, Bonds AB, and Kaas JH. Information integration within the primary somatosensory cortex hand representation of owl monkeys. Program No. 620.1. 2007 Abstract Viewer/Itinerary Planner. Washington DC: Society for Neuroscience 2007. Online.

Reed JL, Qi H, Zhou Z, Burish MJ, Bernard MR, Kajikawa Y, Pouget P, Bonds AB, and Kaas JH. Multielectrode recordings of neurons in primary somatosensory cortex of owl monkeys during skin indentations with dual probes inside and outside the classical receptive field. Program No. 53.20. 2006 Abstract Viewer/Itinerary Planner. Washington DC: Society for Neuroscience 2006. Online.

Qi H, **Reed JL**, Zhou Z, Burish MJ, Bernard MR, Kajikawa Y, Bonds AB, and Kaas JH. The spontaneous activity of neurons in area 3b of monkeys is suppressed by skin indentation outside the receptive fields. Program No. 53.19. 2006 Abstract Viewer/Itinerary Planner. Washington DC: Society for Neuroscience 2006. Online.

Reed JL, Qi HX, Kajikawa Y, Hackett TA, and Kaas JH. 2005. Local field potential responses recorded in area 3b hand representation of owl monkeys to skin indentations at one or two locations on the hand. Program No. 174.20. 2005 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience. Online.

Remple MS, Stepniewska I, **Reed JL**, and Kaas JH. 2004. The sensory connections of motor cortex in tree shrews. Program No. 641.15. 2004 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience. Online.

PUBLICATIONS

Jamie L. Reed

Published Abstracts (continued):

Remple MS, **Reed JL**, Stepniewska I, and Kaas JH. 2003. The organization of motor cortex and the distribution of corticospinal neurons in tree shrews. Program No. 708.6. 2003 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience. Online.

Gulley JM, **Reed JL**, Brewster KJ, and Rebec GV. 2000. Movement-related excitations predominate in substantia nigra pars reticulata neurons of rats performing nosepoke task. Society for Neuroscience Abstracts. 26 (1-2).

TEACHING ACTIVITIES

Guest lecturer: "Somatosensory: System organization and plasticity" Sept 16, 2013
Course: Systems Neuroscience, Neuroscience Graduate Program, Vanderbilt University
Course Directors: Dr. Vivien Casagrande and Dr. Mark Wallace

Guest lecturer: "Somatosensory System: Touch, Proprioception, Pain, and Temperature"
July 28, 2011; June 21, 2012
Course: Introduction to Neuroscience, Department of Psychology, Vanderbilt University
Course Director: Dr. Lisa de la Mothe

Teaching Intern: holding exam reviews, assisting student presentations, grading Fall 2005
Course: Systems Neuroscience, Neuroscience Graduate Program, Vanderbilt University
Course Director: Dr. Vivien A. Casagrande

Undergraduate Mentor (Dr. Jon Kaas, PI)

JoongHyun Ahn "Neuron responses and network interactions in primary somatosensory cortex after dorsal column lesions" Summer 2014
Stephen Braren "Neuroanatomical and neurophysiological investigations of plasticity after partial spinal cord lesions in monkeys" Hunter College student at Vanderbilt through NIH BP-ENDURE (Blueprint Program for Enhancing Neuroscience Diversity through Undergraduate Research Education Experiences; R-25) Summer 2014
Courtney Keene "Effects of intensive rehabilitation of hand use after partial spinal cord injury in monkeys" 2014-present
Bailey Lyttle "Recovery of the somatosensory cortex in new world monkeys following lesion to the spinal cord" 2013-present
Jolene Underwood "Electrophysiological analysis of neurons in somatosensory cortex of owl monkeys after partial dorsal column lesions" 2013-present
Matthew Miller "Abnormal responses to the ipsilateral hand and interhemispheric interactions in area 3b after spinal cord injury" 2013-present
Sonia Ajmera "Intensive behavioral training improves recovery from spinal cord injury: implications for neuronal responses" 2012-present
Christopher Gross "Does rehabilitation improve hand use and brain activation after injury?" Vanderbilt Undergraduate Summer Research Program Summer 2013
Lucie Calderon "Fiber density in spinal cord & brainstem of injured monkeys" 2011-2013
Gabiella DiCarlo "Spike sorting neuronal signals in injured monkeys" 2010-2011

TEACHING ACTIVITIES (continued)

Jamie L. Reed

Undergraduate Mentor (Dr. Jon Kaas, PI)

Michael Mikulic “Firing rate and latency analysis of neuronal signals”	2009-2012
Courtland Blount “Spinal cord injury: spike sorting & behavioral analysis”	2010-2011
Katie Wynne “Plasticity of the somatosensory system”	2008-2009
Abinash Joshi “Network of representations of the tongue and teeth”	2007-2008
Rachel Kellum “Superior colliculus connections of the gray squirrel”	2004-2005
Martha Presley “Superior colliculus afferents from <i>tupiai belangeri</i> brainstem”	2003-2004

Work or Volunteer Research Advisor (Drs. Jon Kaas and Huixin Qi, PIs)

Christopher Gross	08/12-present
C. Brian Murphy	10/13-05/14
Courtney Keene	2013
Sarah Best	2011-2013
Thao Bui	2011-2013
Lindsey Gilling	2009-2010
Christopher Heelan	2009
Leslie Nash	2009
Andrew Bennett	2008-2009
Katherine Filip	2008
Shaun Mahaffy	2006

INVITED TALK

“Properties of neurons in the primary somatosensory cortex of monkeys and glimpses toward understanding recovery from injury” The Cleveland Clinic and The Advanced Platform Technology Center, Cleveland, OH March 2010

PRESENTATIONS

“Recovery from injury: Relationships between neurophysiological, anatomical, and behavioral measures in monkeys after sensory loss” Psychology Neuroscience Seminar, Vanderbilt	March 2013
“Glimpses toward understanding plasticity after spinal cord injury: anatomical, behavioral, and physiological evaluations” Psychology Neuroscience Seminar, Vanderbilt	Feb. 2011
“How to use the VUMC Editors’ Club” Center for Communication, Vanderbilt	July 2011
“Hot topics and chilling scenarios” Vanderbilt Editors’ Club	July 2009
“Streamlining document review” Vanderbilt Editors’ Club	Apr. 2009
“Recovery from spinal cord injury: linking BDNF and brimonidine?” Dr. David Calkins laboratory, Vanderbilt Eye Institute	Aug. 2008
“Spatial integration of sensory inputs within the primary somatosensory cortex hand representation” Psychology Neuroscience Seminar, Vanderbilt	Nov. 2007
“Spatial-temporal stimulus interactions in monkey primary somatosensory cortex neurons” Neuroscience Research Forum, Vanderbilt	Nov. 2006
“Responses in monkey primary somatosensory cortex to stimuli at one or two locations on the hand” Neuroscience Research Forum, Vanderbilt	May 2005

PROFESSIONAL AFFILIATIONS

Jamie L. Reed

Society for Neuroscience, Postdoctoral Member
Middle Tennessee Chapter, Society for Neuroscience, Trainee Member
Committee for Women In Neuroscience, Society for Neuroscience, Mentee

Curriculum Vitae updated on June 12, 2014