

Curriculum Vitae

Deborah M. Little, Ph.D.

**Assistant Professor of Neurology and Rehabilitation, Anatomy and Cell Biology,
Ophthalmology and Visual Sciences, and Psychology**

Contact at Work:

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100 Forest Place #209
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Education

- 1999-2001 **Ph.D., Psychology with a Specialization in Cognitive Neuroscience**
Brandeis University; Waltham, Massachusetts
Thesis: Age and attentional constraints on the encoding and recall of spoken discourse
Mentor: Arthur Wingfield, D. Phil.
- 1997-1999 **M.A., Psychology**
Brandeis University; Waltham, Massachusetts
Thesis: Effects of divided attention on self-paced listening: Sustained attention, resource allocation, and normal aging.
Mentor: Arthur Wingfield, D. Phil.
- 1993-1997 **B.A., Psychology, with High Honors**
Scripps College; Claremont, California
Thesis: Evaluating the role of working memory as a predictor for complexity in written and verbal discourse in older and younger adults.
Mentor: Alan Hartley, Ph.D.

Professional Experience

- 2004- **Assistant Professor (tenure track)**
Department of Neurology and Rehabilitation (Primary Appointment)
Department of Anatomy and Cell Biology (Secondary Appointment)
Department of Ophthalmology and Visual Sciences (Secondary Appointment, as of 2006)
Department of Psychology (Secondary Appointment, as of 2006)
University of Illinois at Chicago
- 2004- **Director of Magnetic Resonance Research**
Department of Neurology and Rehabilitation, University of Illinois at Chicago
- 2003-2004 **Director of Magnetic Resonance Education**
Center for Magnetic Resonance Research, University of Illinois at Chicago
- 2001-2004 **Postdoctoral Research Associate**
Center for Magnetic Resonance Research, University of Illinois at Chicago
- 2001-2004 **Visiting Research Associate**
Department of Psychology, Brandeis University

- 1997-2001 **NIA Predoctoral Fellow**
 Department of Psychology, Brandeis University
- 1994-1997 **Laboratory Manager**
 Department of Psychology, Scripps College
- 1993-1994 **Undergraduate Research Assistant**
 Department of Psychology, Scripps College

Awards and Honors

- Graduate Research Award, American Psychological Association, Division 20, Retirement Research Foundation, 2000
- Dissertation Research Award, American Psychological Association, 2000
- Margaret Faust Thesis Award , Scripps College, 1997
- Langland Psychology Award, Scripps College, 1996
- Esterly Award for Summer Research, Scripps College, 1995
- Fellow, Sigma Xi, 2007

Active Grants

- Anatomical correlates of executive function decline in normal aging, 2007-2009.
 R21 AG028662 R2
 National Institute of Aging
 Priority Score: 132; Percentile: 5.1
 Total Direct: \$233,750
- High Resolution Diffusion Tensor Imaging of White Matter Integrity in Mild TBI, 2007-2009
 Sponsor: CINN Foundation
 Role: Principle Investigator
 Total Direct: \$13,499
- High Resolution Diffusion Tensor Imaging of Cortical-Subcortical White Matter Tracts in TBI
 Department of Defense
 Submitted October 11, 2007
 Role: Principle Investigator
 Co-Investigators: MF Kraus, XJ Zhou
 Total Direct: \$296,431, Total Cost: \$444,639

Completed Grants and Fellowships

- Principle Investigator
 National Institute of Mental Health, 1 RO3 MH075791-01, 2005-2007
 The role of feedback to facilitate category learning.
- Co-Investigator
 Reading Rehabilitation Outcomes (Project No. O3877R), 2005-2007
 Department of Veterans Affairs, Rehabilitation Research and Development Service
- Principle Investigator
 Research Associate Investigator Award, Rehabilitation Research and Development, 2001-2002
 Department of Veterans Affairs
- Trainee
 NIH Predoctoral Fellowship, National Institute on Aging, 1997-2001
 Awarded to Brandeis University

- Principle Investigator
Sigma Xi Grants-In-Aid Research, 2000-2001
Sigma Xi

Funding Under Review (as PI)

- Axonal and Myelin Contributions to Neurobehavioral Function in TBI.
Foundation: Dana Foundation
Role: Principle Investigator
Total Direct: \$199,918
- Contributions of cerebrovascular risk factors for brain health in aging.
Sponsor: Howard Hughes Medical Institute
PI: Deborah Little
Total Cost: \$2,286,600
Project Period: 1/1/09 – 12/31/15
- Anatomical correlates of neurobehavioral function in TBI.
Sponsor: NINDS (Primary), NIMH (Secondary)
PI: Deborah Little
Total Cost: \$2,921,800
Project Period: 11/16/08 – 11/15/12

Funding Under Review (as Co-Investigator)

- Claude D. Pepper Aging Eye Independence Center
National Institute of Aging (P30)
Role: Co-Investigator (10% Salary)
PI: Dimitri Azar, M.D.
- Scaling and sequencing motor output in humans: an fMRI and DTI study.
This is a first revision. The application received a Priority Score of 142, 16th percentile rank, after the first review.
NINDS
Role: Co-Investigator (5% Salary)
PI: David Vaillancourt, Ph.D.

Funding Applications in Progress (as PI)

- Neurological sciences pre-doctoral summer research fellowship.
National Institute of Neurological Disorder and Stroke
To be Submitted May 23, 2009
Role: Principle Investigator (20% Salary)
Total Direct: \$418,632, Total Cost: \$653,066
- Safety and efficacy of stellate ganglion blocks and pulsed radio frequency to relieve PTSD-related anxiety.
Department of Defense
To be Submitted, November 18, 2008
- Center of Excellence for Diagnosis and Treatment of Traumatic Brain Injury
Veterans Administration
To be Submitted, October 24, 2008

- Sensitivity and Specificity of fMRI BOLD signal and DTI as diagnostic markers for mild TBI. Veterans Administration
To be Submitted, October 24, 2008
- Identification of Clinically-Relevant Biomarkers in TBI
Veterans Administration
To be Submitted, December 15, 2008

Ph.D. Dissertation

Age and attentional constraints on the encoding and recall of spoken discourse. Brandeis University, 2001, Dissertation Abstracts International, 62, 1109.

Committee: A. Wingfield (chair), M.J. Kahana, M. Lachman, P.A. Tun, & E.A.L. Stine-Morrow.

Peer-Reviewed Publications

1. Vaillancourt DE, Spraker MB, Prodoehl J, Abraham I, Corcos DM, Comella CL, **Little DM**. High-resolution diffusion tensor imaging in the caudal portion of the substantia nigra of de novo Parkinson's disease. *Neurology*, (in press).
2. Pawar AS, Qtaishat NM, **Little DM**, Pepperburg DR. Recovery of rod photoresponses in *abcr*-deficient mice. *Investigative Ophthalmology and Visual Sciences* (in press) (PMID: 18263807)
3. **Little DM**, Thulborn KR, Szlyk JP. An fMRI study of saccadic and smooth pursuit eye movement control in Age-Related Macular Degeneration. *Investigative Ophthalmology and Visual Sciences* 2008; 49: 1728-1735 (PMID: 18385097).
4. Prodoehl J, Yu H, **Little DM**, Abraham I, Vaillancourt DE. Region of interest template for the human basal ganglia: Comparing EPI and Talairach approaches. *NeuroImage* 2008; 39(3): 956-965 (PMID: 17988895).
5. Tomlinson ID, Gussin HA, **Little DM**, Warnement MR, Qian H, Pepperberg DR, Rosenthal SJ. Imaging GABA_A ion channels with ligand conjugated quantum dots. *Journal of Biomedicine and Biotechnology* 2007; 1-9 (Article ID: 76514; DOI: 10.1155/2007/76514).
6. Kraus MF, *Susmaras T, *Walker CJ, Sweeney JA, **Little DM**. Diffusion tensor imaging and neuropsychological assessment in chronic traumatic brain injury of all severities. *Brain* 2007; 130: 2508-2519 (PMID: 17872928).
7. Kraus MF, **Little DM**, Donnell AS, Reilly J, *Simonian N, Sweeney J. Oculomotor function in chronic traumatic brain injury. *Cognitive and Behavioral Neurology* 2007; 20: 170-179 (PMID: 17846516).
8. Kang Derwent JJ, Saszik SM, Maeda H, Pardue MT, Frishman LJ, **Little DM**, Pepperburg DR. Test of the paired-flash electroretinographic method in *b*-wave deficient mice. *Visual Neuroscience* 2007; 24: 141-149 (PMID: 17640404).
9. **Little DM**, Holloway R. Diffusion Tensor Imaging: Scientific advance, clinical tool, or just a pretty picture. *Neurology* 2007; 68: 9-10 (PMID: 17200483).
10. Gussin HA, Tomlinson ID, **Little DM**, Qian H, Rosenthal SJ, Pepperberg DR. Binding of muscimol-conjugated quantum dots to GABA_A receptors. *Journal of the American Chemical Society* 2006; 128:15701-15713 (PMID: 17147380).

11. **Little DM**, *McGrath LM, Prentice KJ, Wingfield A. Semantic encoding of spoken sentences: Adult aging and the preservation of conceptual short term memory. *Applied Psycholinguistics* 2006; 27: 487-511.
12. **Little DM**, Thulborn KR. Prototype-distortion Category Learning: A Two-phase Learning Process across a Distributed Network. *Brain and Cognition* 2006; 60: 233-243 (PMID: 16406637).
13. **Little DM**, *Shin SS, *Sisco SM, Thulborn KR. Event-related fMRI of category learning: Differences in classification and feedback networks. *Brain and Cognition* 2006; 60: 244-252 (PMID: 16426719).
14. *Kuhlman A, **Little D**, Sekuler R. An interactive test of serial behavior: Age and practice alter executive function. *Journal of Clinical and Experimental Neuropsychology* 2006; 28: 126-144.
15. **Little DM**, Thulborn KR. Correlations of cortical activation and behavior during the application of newly learned categories. *Cognitive Brain Research* 2005; 25: 33-47 (PMID: 15936179).
16. **Little DM**, Prentice KJ, *Darrow A, Wingfield A. Listening to spoke text: Adult age differences as revealed by self-paced listening. *Experimental Aging Research* 2005; 31: 313-330 (PMID: 16036724).
17. **Little DM**, Klein R, Shobat DM, *McClure E, Thulborn KR. Changing patterns of processing during category learning observed by functional MRI. *Cognitive Brain Research* 2004; 22: 84-93 (PMID: 15561504).
18. Laatsch L, **Little DM**, Thulborn KR. Changes in fMRI following cognitive rehabilitation therapy in severe traumatic brain injury: A case study. *Rehabilitation Psychology* 2004; 49: 262-267.
19. **Little DM**, Prentice KJ, Wingfield A. Adult age differences in judgments of semantic fit. *Applied Psycholinguistics* 2004; 25: 135-143.
20. Wingfield A, Prentice K, Koh CK, **Little DM**. Neural change, cognitive reserve and behavioral compensation in rapid encoding and memory for spoken language in adult aging. In L. T. Connor & L. K. Obler (Eds.) *Neurobehavior of Language and Cognition: Studies of Normal Aging and Brain Damage*; 2000.
21. **Little DM**, Hartley AA. Further evidence that negative priming in the Stroop color-word task is equivalent in older and younger adults. *Psychology and Aging* 2000; 15: 9-17 (PMID: 10755285).
22. Hartley AA, **Little DM**. Age-related differences and similarities in dual-task interference. *Journal of Experimental Psychology: General* 1999; 128: 416-449 (PMID: 10650582).

* Indicates authorship which developed out of supervised research

Publications Presently Undergoing Review

1. Silverstein SM, Berten S, Essex B, Kovacs I, Susmaras T*, **Little DM**. An fMRI examination of visual integration in Schizophrenia. *Revision submitted to Biological Psychiatry*.
2. Szlyk JP, **Little DM**. Cortical networks subserving word recognition in age-related macular degeneration. *Revision submitted to Investigative Ophthalmology and Visual Sciences*.
3. Maki PM, Cohen M, Weber K, **Little DM**, Fornelli D, Perschler P, Gould F, Martin E. Deficits in verbal memory and hippocampal function in HIV-positive women. *Manuscript submitted to Neurology*.
4. **Little DM**. Neural correlates of human category learning. Manuscript submitted to *International Journal of Neuroscience*.
5. **Little DM**, Susmaras T*, Shah NS*, Jiam C*. Effects of category structure on the networks underlying category learning. Manuscript submitted to *International Journal of Neuroscience*.

6. **Little DM**, Susmaras T*, Jiam C*. Feedback modifies the neural networks which underlie category learning. Manuscript submitted to *International Journal of Neuroscience*.
7. Susmaras T*, Shah NS*, **Little DM**. Roles of the anterior cingulate, caudate, and fusiform gyri in prototype-distortion category learning. Manuscript submitted to *International Journal of Neuroscience*.

Peer-Reviewed Published Abstracts and Presentations

1. Ramati, A, **Little DM**, Sweeney JA, Pulsipher P, Keedy S, Fink J, Bodnar B, Kelley, Lee, Pliskin N. White matter integrity and cognition following electrical injury: a diffusion tensor imaging study. International Neuropsychological Society Annual Meeting, Atlanta, GA 2009.
2. All S, **Little DM**, Susmaras T, Berten S, Essex B, Lathrop K, Silverstein S. Differential effects of spatial frequency manipulations on fMRI activation in response to neutral face processing in schizophrenia versus controls. Society for Research on Psychopathology, Paris, France, August 2008.
3. Vaillancourt DE, Spraker MB, Prodoehl J, Abraham I, Corcos DM, Comella CL, **Little DM**. High-resolution diffusion tensor imaging in the caudal portion of the substantia nigra of de novo Parkinson's disease. Movement Disorders, Chicago IL, 2008.
4. **Little DM**, Susmaras T*, Geary EK, Kraus, MF. Age-related alterations in short- and long- fiber tracts. Cognitive Aging Conference, Atlanta GA, 2008.
5. *Susmaras T, Nyenhuis DL, Kraus MF, **Little DM**. Anatomical correlates of neuropsychological decline in normal aging. Cognitive Aging Conference, Atlanta GA, 2008.
6. Kraus MF, Little DM. White matter integrity and depression in chronic mild traumatic brain injury. Seventh World Congress on Brain Injury, Lisbon Portugal, 2007.
7. **Little DM**, *Susmaras T, Kraus MF. Relationships between category structure and use of category knowledge. Program No. 773.5. 2007. Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2007. Online.
8. Kraus MF, *Susmaras T, *Walker CJ, Simonian N, Sweeney JA, **Little, DM**. High resolution diffusion tensor imaging of traumatic brain injury. Program No. 381.4.AA15. 2007. Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2007. Online.
9. Kraus MF, *Susmaras T, Walker C, Simonian N, Sweeney JA, **Little DM**. 2007. White matter integrity in mild and moderate/severe traumatic brain injury. Neuroimage, 36(S1), S69.
10. Prodoehl J, Yu H, Abraham I, **Little DM**, Vaillancourt D (2007). Region of interest template for basal ganglia: Comparing EPI and Talairach approaches. Neuroimage, 36(S1), S77.
11. **Little DM**, *Susmaras T, Maki P, Nyenhuis D, Zhou XJ, Kraus MF. (2007). White matter integrity as a predictor of age-related declines in working memory. Neuroimage, 36(S1), S96.
12. **Little DM**, Kraus MF, *Susmaras T, Maki P, Nyenhuis D, Zhou XJ. (2007). High resolution diffusion tensor imaging for visualization of short-range fiber tracts. Neuroimage, 36(S1), S101.
13. Gussin, H., Tomlinson, I.D., **Little, D.M.**, Qian, H., Rosenthal, S.J., & Pepperburg, D.R. Quantum dot conjugates with variable agonist valency: Interaction with GABA_A receptors. Association for Research in Vision and Ophthalmology.
14. Maki, P.M., **Little, D. M.**, Cohen, M., Weber, K., Perschler, P., Gould, F., Martin, E. Deficits in verbal memory and hippocampal function in midlife HIV+ women. International Neuropsychological Society (February, 2007).

15. Silverstein, S.M., Thompson, J., *Berten, S., Essex, B., Schall, U., Halpin, S., Carr, V., & **Little, D.M.** Behavioral, gamma synchrony, and fMRI indices of perceptual organization reduction in Schizophrenia. Abstract submitted to Joint Meeting of the EEG and Clinical Neuroscience Society and the International Society for Neuroimaging in Psychiatry (September 2006).
16. **Little, D.M.**, Shin, S.S., Sisco, S.M., & Kraus, M.F. (2006). The effects of feedback on the networks underlying prototype-distortion category learning. *NeuroImage*, 31 (1), S39.
17. Perschler, P., Gould, F., Martin, E., **Little, D.M.**, Cohen, M., & Maki, P. (2006). White matter deterioration and memory performance in HIV+ women. *NeuroImage*, 31 (1), S81.
18. Vassileva, J., Dorflinger, J., **Little, D. M.**, Perschler, P., Gould, F., & Maki, P. (2006). Working memory in HIV seropositive women: An fMRI study. *NeuroImage*, 31 (1), S104.
19. Kraus, M. F., **Little, D. M.**, *Sisco, S., Porges, E., & Sweeney, J.A. (2006). A functional MRI study of visually guided saccades in chronic Mild Traumatic Brain Injury. *NeuroImage*, 31 (1), S50.
20. **Little, D.M.**, Thulborn, K.R., & Szlyk, J.P. Cortical networks underlying saccadic and smooth pursuit eye movements in AMD. Presented at the Association for Research in Vision and Ophthalmology (April, 2006).
21. Szlyk, J.P., **Little, D.M.**, Modi, D., & Thulborn, K.R. Brain networks implicated in word identification in patients with AMD shown by fMRI. Presented at the Association for Research in Vision and Ophthalmology (April, 2006).
22. Gussin, H.A., Tomlinson, I.D., **Little, D.M.**, Qian, H., Rosenthal, S.J., & Pepperburg, D.R. Quantitative image analysis of the GABAC receptor interaction with Muscimol-Conjugated Quantum Dots. Presented at the Association for Research in Vision and Ophthalmology (April, 2006).
23. Perschler, P.J., Maki, P.M., Vassileva, J., Nyenhuis, D.L., Zhou, X.J., & **Little, D.M.** Age-related anatomical correlates of working memory performance. Presented at the Cognitive Aging Conference: Atlanta, GA (April, 2006).
24. **Little, D.M.**, *Orrin, S.H., *Shin, S.S., *Sisco, S., & Kraus, M.F. Dissociating the networks of acquisition from those of implementation of newly learned categories. *Cognitive Neuroscience*, 12 (San Francisco, CA).
25. **Little, D.M.**, *Sisco, S., *Shin, S., & Thulborn, K.R. Dissociating the neuronal networks implicated in classification and feedback during prototype distortion learning. Program No. 581.8, 2005 Abstract Viewer. Washington DC: Society for Neuroscience (November 2005).
26. *Kuhlman, A., **Little, D.M.**, & Sekuler, R. Age and practice alter executive function in a variant of the Trail Making Test. Program No. 770.24, 2005 Abstract Viewer. Washington DC: Society for Neuroscience (November 2005).
27. Kraus, M.F., Donnell, A.J., **Little, D.M.**, Porges, E.S., & Sweeney, J.A. Performance on visually guided saccade and antisaccade tasks in chronic traumatic brain injury. NABIS. (September 2005).
28. **Little, D.M.** & Thulborn, K.R. (May 2005). Correlating patterns of fMRI activation with behavior: An example from category learning. International Society for Magnetic Resonance in Medicine (Miami Beach, FL).
29. **Little, D.M.** & Thulborn, K.R. (2005). Neural correlates of classification and feedback in a category learning task as indicated by fMRI. *Cognitive Neuroscience Society*, 12 (New York, NY).

30. **Little, D.M.** & Thulborn, K.R. (October 2004). Individual differences in learning to categorize random-dot patterns. *Society for Neuroscience Abstracts*, 30 (San Diego, CA).
31. **Little, D.M.** & Thulborn, K.R. (2004). Characterization of individual differences in learning as indicated by fMRI. *Cognitive Neuroscience Society*, 11 (San Francisco, CA).
32. **Little, D.M.**, Shobat, D.M., Klein, R. & Thulborn, K.R. (2003). Dynamic changes in the brain during learning. *Society for Neuroscience Abstracts*, 29 (New Orleans, LO).
33. **Little, D.M.**, Shobat, D.M., Klein, R., & Thulborn, K.R. (2003). fMRI based models of learning and memory in normal volunteers and stroke patients. *Abstracts of the International Society of Magnetic Resonance in Medicine*, 11 (Toronto, Canada).
34. Thulborn, K.R., **Little, D.M.** & Klein, R. (2003). Functional MR imaging of learning and memory in normal subjects and stroke patients during rehabilitation. *Annual Meeting of the American Society of Neuroradiology*, 41 (Washington D.C).
35. **Little, D.M.**, Klein, R., Shobat, D.M., Christie, J., & Thulborn, K.R. (2003). Network specialization during the learning of novel stimuli in healthy adults. *Cognitive Neuroscience Society*, 10 (New York, NY).
36. **Little, D.M.**, Sweeney, J.A., Seiple, W., Szlyk, J., & Thulborn, K.R. (2001). Modulation of fMRI activation patterns by incongruent gaze and spatial attention. *Society for Neuroscience Abstracts*, 28 (November 2002).
37. **Little, D.M.**, Tun, P.A., Kemtes, K.K., & Wingfield, A. (2002). Effects of age and semantic relatedness of distracting material on reading text and listening to speech. *Abstracts of the Cognitive Aging Conference*, 9 (Atlanta, GA).
38. **Little, D.M.**, Tun, P.A., Kopp, C., & Wingfield, A. (2001). Distracting sound increases false memory for spoken words in older adults. *Abstracts of the Psychonomic Society*, 6, 78 (Orlando, FL).
39. **Little, D.M.**, Prentice, K.J. & Wingfield, A. (2000). Age-related effects of familiarity on the encoding and recall of spoken discourse. *Abstracts of the Cognitive Neuroscience Research Forum*, 1 (Boston, MA).
40. **Little, D.M.**, *McGrath, L.M., Prentice, K.J., & Wingfield, A. (2000). Conceptual short term memory: An Investigation of Semantic Selectivity and Trace Strength. *Abstracts of the Cognitive Neuroscience Research Forum*, 1 (Boston, MA).
41. **Little, D.M.**, & Wingfield, A. (2000). Age differences in encoding patterns in spoken text comprehension. *Abstracts of the Cognitive Aging Conference*, 8 (Atlanta, GA).
42. **Little, D.M.** & Wingfield, A. (1999). Encoding and recall of spoken discourse in adult aging. *Abstracts of the Psychonomic Society*, 4 (Los Angeles, CA).
43. **Little, D.M.** & Hartley, A.A. (1998). Further evidence for an age-related dissociation of interference and identity suppression. *Abstracts of the Cognitive Aging Conference*, 7 (Atlanta, GA).
44. Speer, N.K., **Little, D.M.**, Gabston, M.S., Davis, M.R., Rodriguez, Y., & Hartley, A.A. (1998). Age-related dissociation of working memories for name identity and spatial location. *Abstracts of the Cognitive Aging Conference*, 7 (Atlanta, GA).
45. Hartley, A.A. & **Little, D.M.** (1996). Localizing the age differences in dual task interference. *Abstracts of the Cognitive Aging Conference*, 6 (Atlanta, GA).

* Denotes an authorship for research conducted under my mentorship.

Invited Colloquia

- *In-vivo Imaging Based Assessments of Neuropathology in Blast-type TBI*
Blast-Related Brain Injury: Imaging for Clinical and Research Applications, Mallinckrodt Institute of Radiology, St Louis, MO (October, 2008).
- *Functional Relevance of Age-Related Changes in Cerebral White Matter*
University of Illinois Behavioral Neurosciences Seminar, Chicago, IL. (February 2008)
- *Advanced Clinical Magnetic Resonance Imaging of the Human Brain: fMRI and DTI*
Department of Otolaryngology Grand Rounds, University of Illinois College of Medicine (December 2007)
- *White Matter burden on Executive Function in Healthy Aging: A multimodal MRI Investigation*
Volen National Center for Complex Systems Brain-Imaging and Memory Research Group
Brandeis University; Waltham, MA (November 2007)
- *Contributions of Traumatic Brain Injury to Defects in White Matter Microstructure*
Volen National Center for Complex Systems Brain-Imaging and Memory Research Group
Brandeis University; Waltham, MA (November 2007)
- *Use of MRI in Political Science Research*
American Political Science Association, Political Communications Section, Machine Politics/Politics of the Machine: New Technology in Political Communication Research and Teaching (August 2007)
- *High Resolution Diffusion Imaging in chronic mild head injury.*
Chicago Institute of Neurosurgery and Neuroresearch, Chicago, IL (June 2007)
- *The effects of decreased white matter integrity on networks which underlie working memory.*
Center for BrainHealth, University of Texas at Dallas, Dallas, TX (June 2007)
- *Functional outcomes of gray and white matter declines in super-healthy aging.*
Department of Neurology, University of Chicago, Chicago, IL (March 2007)
- *Does white matter matter in Normal Aging?*
Department of Psychology, Washington University, St. Louis, MO (November 2006)
- *Anatomical Correlates of Executive Function Decline in Normal Aging*
Department of Human Nutrition and Movement Sciences, University of Illinois, Chicago IL (October, 2006)
- *Principles and Applications for Clinical fMRI*
Department of Neurology, Children's Memorial Hospital, Chicago IL (October 2006)
- *White and gray matter contributions to executive functions in normal aging.*
Department of Psychology, Behavioral Neuroscience, University of Illinois, Chicago IL (September, 2006)
- *Executive function declines in Normal Aging.*
Department of Psychiatry Grand Rounds, University of Illinois, Chicago IL (September, 2006)
- *Imaging Language Development*
Midwest Neuropsychological Group Annual Meeting (May 2006)
- *Neuroimaging of Prototype-Distortion Learning.*
Dalhousie University, Nova Scotia (April 2006)
- *fMRI investigation of category learning.*
University of Illinois Behavioral Neurosciences Seminar, Chicago, IL. (March 2006)

- *Functional imaging of human cognitive processes.*
Department of Anatomy and Cell Biology, Plasticity and Regeneration (April 2005)
- *Neural correlates of human category learning.*
Department of Psychology, Ettengberg Lecture, Chicago, IL (April 2005)
- *fMRI: A window to the workings of the brain?*
Department of Neurology, Grand Rounds, Chicago, IL (February 2005)
- *Dynamic changes in the brain during learning.*
Decoding the Human Brain, Chicago, IL (September 2004)
- *The effects of learning on brain activity via functional MR imaging.*
University of Illinois Behavioral Neurosciences Seminar, Chicago, IL. (February 2004)
- *Learning as a model of plasticity in the healthy brain and in stroke.*
Department of Neurology, Grand Rounds, Chicago, IL. (May 2003)
- *The progression of dynamic changes in activation patterns during learning.*
Chicagoland Symposium: Functional MRI of the brain in Health and Disease, Chicago, IL (April 2003)
- *Resource limitations at encoding as an account of adult age differences in memory for discourse.*
Brigham & Women's Behavioral Neuroscience Seminar Series, Boston, MA (April 2001).

Teaching

Guest Lectures:

- *Diffusion Tensor Imaging.* Lecture series on physics, measurement, and analysis of diffusion tensor imaging data. University of Illinois at Chicago, Center for Cognitive Medicine, November and December 2007.
- *Neuroimaging.* Annual lectures to the Neurology residents to aid in the identification of anatomical landmarks. University of Illinois at Chicago, September 2003, 2004, and 2005.
- *MRI Physics.* Annual lectures to the Neurology residents on the physics that underlie standard anatomical imaging in MRI. University of Illinois at Chicago, September 2003, 2004, and 2005.
- *Brain and Behavior.* Guest lecture for a 1st year medical school class in the College of Medicine. University of Illinois at Chicago, March, 2006.
- *Human Neuroanatomy.* Annual guest lecture for the 1st year medical class on diagnostic radiology in the College of Medicine. University of Illinois at Chicago, February 2003, February 2004, and February 2005.
- *Plasticity and Regeneration.* Guest lecture for a graduate course focusing on processes that drive cortical plasticity in humans in the Department of Anatomy and Cell Biology. March 2005.
- *Human Memory.* Four guest lectures on various topics in human memory focusing on current and past theories on memory formation for the course entitled Cognitive Processes in the Department of Psychology at Brandeis University. February-March 1999.
- *Attentional Mechanisms.* Three guest lectures on selective, sustained and divided attention in humans as part of the Cognitive Neuroscience class which was cross listed in the Departments of Psychology and Neuroscience at Brandeis University. February-March 2000.
- *Neurodegeneration.* Guest lecture for a graduate course on the role of imaging in neurodegeneration diagnosis and treatment in the Departments of Anatomy and Neuroscience at UIC in April 2008.

- *Neuroscience (596)*. Instructor for independent study in Neuroscience, 2006-present.

Research Supervision:

- *Alexander Darrow*, Honors Neuroscience Thesis Supervisor, Brandeis University, 1999-2000. Mr. Darrow is finishing his PhD at Carnegie Mellon University in Computer Science.
- *Lauren McGrath, MA*, Honors Neuroscience Thesis Supervisor, Brandeis University, 2000-2001. Ms. McGrath is finishing her PhD at Denver University in Clinical Psychology with a specialization in Behavioral Genetics.
- *Erik McClure, MD*, Medical Student Research Supervisor (following his M1 Year and as a research elective in his 3rd year), 2003 & 2005. Dr. McClure is currently a PGY2 in Physical Medicine and Rehabilitation at Rush University.
- *Sarah Orrin, MD*, Medical Student Research Supervisor (Research elective in her 3rd year), 2005. Dr. Orrin is currently a PGY2 in Radiology at the University of Chicago.
- *Geeta Bansal, MD*, Medical Student Research Supervisor (Summer research elective in her 3rd year), 2005. Dr. Bansal was a medical student at the University of Cincinnati and is currently a PGY2 at the University of California at Davis in Neurology
- *Jennifer Garcia, MD*, Medical Student Research Supervisor (following her M1 Year), 2003. Dr. Garcia is currently a PGY2 in Anesthesiology at the University of Chicago
- *Silvia Shin BS*, Research Assistant 2005-2006. Ms. Shin is currently in her first year of medical school in Atlanta.
- *Shannon Sisco BA*, Research Assistant 2005-2006. Ms. Sisco is currently in her first year as a PhD student in Clinical Psychology at the University of Florida.
- *Corey J. Walker*, Undergraduate Honors Research Supervisor, 2006-present. Mr. Walker is in his senior year and applying for admission to Medical School.
- *Benjamin Caughlin, B.S.*, Medical Student Research Supervisor (following his M1 Year), 2007. Mr. Caughlin is currently in his second year at Wayne State University Medical School.
- *Catherine Jiam, B.S.*, Craig Fellowship Supervisor and Sponsor (following her M1 Year), 2007. Ms. Jiam is currently in her second year of medical school at UIC.
- *Nilay Shah*, Undergraduate Honors Research Supervisor, 2007-present. Mr. Shah is in his sophomore year and plans to apply for admission to Medical School.
- *Milan Udawatta*, Independent Research Supervisor, 2007-present. Mr. Udawatta is a junior at the Illinois Math and Science Academy. This is a residential high school that provides directed research experience for enrolled students to better prepare them for college.
- *Danielle Ellinger*, Undergraduate Honors Research Supervisor, 2008-present. Ms. Ellinger is in her sophomore year and plans to apply for admission to Medical School. Ms. Ellinger is conducting research on traumatic brain injury.
- *James Paliga*, Kravis Leadership Recipient, 2008-present. Mr. Paliga has received a Kravis Leadership grant for conducting summer research in my laboratory on cerebral white matter integrity in patients with cerebrovascular risk factors. He will begin his fellowship in May of 2008.
- *Christopher Ochoa, B.S.*, Craig Fellowship Supervisor and Sponsor, 2008-present. Mr. Ochoa is a first year medical student who is conducting investigations the effects of thalamic damage on cognitive functions following brain injury.
- *Josh Joseph, B.S.* Craig Fellowship Supervisor and Sponsor, 2008-present. Mr. Joseph is a first year medical student who is conducting investigations into the role of the caudate in learning.

- *Bart Chwalisz, B.S.*, Craig Fellowship Supervisor, 2008-present. Mr. Chwalisz is a first year medical student who is conducting investigations the effects of damage to feedback and feedforward anterior cingulate fibers on mood regulation following brain injury.
- *Ravi Kasi, B.S.*, Medical Student Research Supervisor, 2008-present. Mr. Kasi is a M3 who is currently conducting a chart review, lesion quantification, and subject recruitment for a right hemisphere stroke project.
- *Khushbu Shah*. Undergraduate Honors Research Supervisor, 2008-present. Ms. Shah is in her first year in the honors college at UIC and has been granted early admission to medical school.
- *Bhavna Balaney, B.S.* Craig Fellowship Supervisor and Sponsor, 2008-present. Ms. Balaney is a first year medical student who is conducting investigations into the relationship between white matter integrity in fibers exiting the thalamus with oculomotor function.
- *Tammy Tamoyo, B.S. MD/PhD Student*, 2008-present. Ms. Tamoyo is presenting rotating in the laboratory and conducting research on the relationship between neuropsychological function and atrophy following head injury.

Instructor:

- *Neuroscience II*. Team taught a graduate course on Neuroscience in the Psychology department within the College of Arts and Sciences at UIC, 2007.
- *Gross Human Neuroanatomy Laboratory*. Team taught one section of the gross anatomy laboratory for first year Medical students in the College of Medicine at the University of Illinois at Chicago; 2005-2006.
- *Functional MR Imaging*. Team taught a course with Drs. Keith Thulborn, X. Joe Zhou, and David Vaillancourt on MR physics, paradigm design, and statistical analysis of fMRI data to Biophysics graduate students at the University of Illinois at Chicago, 2006.
- *Tools for fMRI*. Team taught a course with Dr. Keith Thulborn in the Department of Physiology and Biophysics, University of Illinois at Chicago, 2003.

Qualifying Examination and Dissertation Committee Membership

- Lisa Sprute, Neuroscience Program, UIC. Qualifying examination committee (Spring 2007)
- Ben Smith, Anatomy & Cell Biology, UIC. Qualifying examination chair (Summer, 2007)
- Matthew Spraker, Bioengineering, UIC. Qualifying examination committee (Spring 2008)

Ad Hoc Reviewer

- Journals of Gerontology: Psychological Sciences, 2003-present
- Journal of Experimental Psychology: Learning, Memory, & Cognition, 2004-present
- Journal of Magnetic Resonance Imaging, 2004-present
- American Journal of Psychiatry, 2005-present
- Neurology, 2005-present
- Biological Psychiatry, 2006-present
- The Journal of Neuropsychiatry and Clinical Neurosciences, 2007-present
- Neurocase, 2007-present
- Cerebral Cortex, 2007-present
- Neurocomputing, 2007-present
- Brain, 2008-present

Extramural Service

- Ad Hoc Reviewer, The Netherlands Research Council, 2006-present.
- Ad Hoc Reviewer, NIH Center for Scientific Review, Neurological, Aging, and Musculoskeletal Epidemiology (NAME) Study Section, February, 2008.
- Ad Hoc Reviewer, Department of Defense Traumatic Brain Injury Research Program, New Investigator & Investigator Initiated Awards Project, May, 2008.
- Reviewer, Department of Defense Medically Directed Research Program, Investigator Initiated Awards Program, Section on Traumatic Brain Injury, November-December 2008.
- Reviewer, Department of Defense Medically Directed Research Program, New-Investigator, Section on Diagnosis of TBI and PTSD, December 2008.
- Reviewer, Department of Defense Deployment Related Medical Research Program, November-December 2008.

Intramural Service

- Colbeth Center, Pediatric Biopolar Disorder; April 30, 2005
- Department of Ophthalmology Eye Opener; May 13, 2006
- University of Illinois Foundation, May 31, 2006
- Department of Neurology Research Committee (2005-present)
- Department of Neurology Grand Rounds Curriculum Committee (2008-present)
- UIC Internal Grant Reviewer (2005-present)
- Judge, UIC Research Forum (2007, 2008)
- College of Medicine Medical Student Research Committee (2007-present)
- College of Medicine Committee on Research (2007-present)

Professional Memberships

- Organization for Human Brain Mapping (2003-present)
- International Society for Magnetic Resonance in Medicine (2003-present)
- Society for Neuroscience (2002-present)
- American Psychological Association (2001-present)
- Gerontological Society of America (2001-present)
- Cognitive Neuroscience Society (1999-present)
- Sigma Xi (1996-2007); Fellow (2007-present)

Professional Development

- Reprogramming the Human Brain. Symposium and workshop focused on translating brain plasticity research into clinical practice. University of Texas Southwestern Medical Center at Dallas, April 7-8, 2005, Dallas, TX
- Functional Magnetic Resonance Imaging: An Introductory Course. Medical College of Wisconsin, May 9-11, 2002, Milwaukee, WI.
- Pre-surgical Mapping Using Functional Magnetic Resonance Imaging & Diffusion Tensor Imaging. Medical College of Wisconsin, November 6, 2006, Chicago, IL.