

Russell Alan Epstein

CONTACT INFORMATION

Department of Psychology
University of Pennsylvania
3720 Walnut St.
Philadelphia PA 19104, USA

Phone: 215-573-3532
FAX: 215-898-1982
email: epstein@psych.upenn.edu

EDUCATION

- 1996 Ph.D., Applied Mathematics, Harvard University
Specialization in computer vision
Dissertation: "Learning object representations from grayscale images."
Advisor: Alan L. Yuille
- 1991 B.A., Physics, University of Chicago

EMPLOYMENT

- 2008- Associate Professor, Department of Psychology, University of Pennsylvania
- 2002-2008 Assistant Professor, Department of Psychology, University of Pennsylvania
- 1999-2001 Research Scientist, Medical Research Council Cognition & Brain Sciences Unit, Cambridge, UK
- 1997-99 Postdoctoral Fellow, Department of Brain and Cognitive Sciences, MIT
- 1996-97 Postdoctoral Fellow, Department of Psychology, Harvard University

HONORS AND FELLOWSHIPS

- 1996-99 National Research Service Award (Postdoctoral Fellowship)
- 1991-94 National Science and Engineering Graduate Fellowship
- 1991 National Science Foundation Graduate Fellowship (declined)
- 1991 Phi Beta Kappa

GRANTS

NSF, SBE-0541957. "Spatial intelligence and learning center." 2006-2011. Co-Investigator, Member of Leadership Group, and head of U. Penn component. (\$19,500,000 total direct costs; \$602,452 total U Penn direct costs; PI: Nora S. Newcombe).

NIH/NEI, R01 EY016464. "Place representations in the human visual system." 2006-2011. Principal Investigator. (\$1,125,000 total direct costs)

Whitehall Foundation, 2004-05-99-APL. "Place Learning in the Human Cortex." 2004-2007. Principal Investigator. (\$190,875 total direct costs).

University of Pennsylvania Research Foundation. "Location and Orientation Codes in the Human Brain." 2004. Principal Investigator. (\$15,000 total direct costs)

Alzheimers Research Trust (UK). "The functional contribution of medial temporal lobe memory regions to profiles of memory impairments in dementia: An interdisciplinary project using neuropsychological and neuroimaging methodologies." Collaborative Investigator. (PI: Kim S. Graham)

NIH, National Research Service Award F32 MH011459. "Repetition Blindness and Location Codes." 1997-1999. Principal Investigator (\$74,900 total direct costs).

PROFESSIONAL ACTIVITIES

Member: Society for Neuroscience, Vision Sciences Society

Ad-hoc reviewer: Brain & Language, Brain Research, Cerebral Cortex, Consciousness & Cognition, Developmental Psychology, European Journal of Neuroscience, Experimental Brain Research, Hippocampus, Journal of Cognitive Neuroscience, Journal of Experimental Psychology: General, Journal of Neurology Neurosurgery and Psychiatry, Journal of Neurophysiology, Journal of Neuroscience, Journal of Vision, Nature Neuroscience, Neuroimage, Neuron, Neuropsychologia, Perception, Perception & Psychophysics, Vision Research , Visual Cognition

Ad-hoc grant reviewer: National Science Foundation

Invited talks:

Department of Psychology, Northwestern University (Jan. 2009)
Neuroscience of Social Decision Making, Princeton University (Oct. 2008)
Philoctetes Center for the Multidisciplinary Study of Imagination, New York (May 2008)
Center for Cognitive Science, Rutgers University (March 2008).
Horizons of Vision Research Conference, California State University Long Beach (March 2008).
Dept of Psychology, Rice University (Nov. 2007)
Vision Lab, Dept. of Psychology, Harvard University (Sept. 2007)
Dept. of Neuroscience, Brown University (Sept. 2007)
Dept. of Brain & Cognitive Sciences, MIT (Sept. 2007)
Vision Sciences Society Symposium, Sarasota FL (May 2007)
MIT Scene Understanding Symposium (SuNS; February 2007).
Academy of Neuroscience for Architecture: 5th Annual Workshop, Washington DC (Nov. 2006)
fMRI Users Group, NYU (Nov. 2006)
Dept. of Psychology, University of Delaware (Oct. 2006)
Dept. of Psychology, West Chester University (April 2006)
Dept. of Psychology, Yale University (Sept. 2005)
Academy of Neuroscience for Architecture: 3rd Annual Workshop, Woods Hole MA (August 2005)
Dept. of Psychology, University of Western Ontario (March 2005)
Society for Neuroscience Minisymposium, San Diego CA (Nov. 2004)
Dept. of Psychology, Vanderbilt University (Oct. 2004)
Dept. of Psychology, Princeton University (March 2004)
Dept. of Psychology, McGill University (March 2001)
Center for Neuroscience, UC Davis (Feb. 2001)
Dept. of Psychology, Stanford University (Feb. 2001)

Dept. of Psychology, University of Chicago (Feb. 2001)
 Dept. of Psychology, University of Pennsylvania (Jan. 2001)
 Dept. of Psychology, UCLA (Feb. 2000)
 Wellcome Dept. of Cognitive Neurology, University College London (Jan. 2000)
 School of Psychology, University of Wales, Bangor U.K. (Nov. 1999)
 Dept. of Psychology, Dartmouth College (Feb. 1999)
 Smith-Kettlewell Eye Research Institute, San Francisco, CA. (Dec. 1997)

ACADEMIC SERVICE

2008-	MRI Physicist Search Committee (Radiology)
2008-	Clinical Search Committee (Psychology)
2008-	Graduate Admissions Committee (Neuroscience)
2008-	Colloquium Committee (Neuroscience)
2008	Organizing Committee, Behavioral and Cognitive Neuroscience Retreat
2008	Recruitment Advisory Committee (School of Medicine)
2007	Imaging Symposium Organizing Committee (Arts and Sciences)
2002-03, 06-07	Graduate Admissions Committee (Psychology)
2003-05	Computing Czar (Center for Cognitive Neuroscience)
2002-03	Colloquium Committee (Psychology)
2002-03	Perception Search Committee (Psychology)
2002-03	Penn Reading Project Committee (Arts and Sciences)

TEACHING/MENTORING

Undergraduate Courses

Psych 149: Cognitive Neuroscience (Spring 05, 06, 07, 08, Fall 08)
 Psych 349: Research Experience in Cognitive Neuroscience (Fall 03, 04)
 Psych 249/459: Visual Cognition (Spring 04, Fall 04, Spring 09)

Graduate Courses

Psych 604: Cognitive Neuroscience Proseminar (Spring 06, Fall 07)
 Psych 630: Cognitive Neuroscience of Memory Proseminar (Spring 04)
 Psych 745: fMRI Data Analysis Seminar (Fall 05, Spring 09)
 Psych 751: Special Topics in Cognition: Spatial Cognition (Spring 08)

Lecturer

IRCS Summer Workshop in Cognitive Science (03, 06, 07, 08)
 Psych 421: Neurobiology of Learning and Memory (Fall 08)
 INSC 573: Core III Systems and Integrative Neuroscience (Spring 09)

Postdoctoral Fellows

2008-present	Victor Schinazi
2006-present	Sean MacEvoy

Graduate Students

2008-	Vanessa Troiani (Neuroscience rotation student)
-------	---

2004-2005 Matt McCabe (Psychology)

Graduate student thesis committee member:

2008-present Thomas Lee (Psychology)
 2008-present Michael Bonner (Neuroscience)
 2008-present Kartik Sreenivasan (Neuroscience)
 2007-present Elizabeth Smith (Psychology, Chair)
 2003-present Elaine Wencil (Psychology; Chair)
 2003-2007 Prin Amorapanth (Neuroscience)
 2003-2007 Robyn Oliver (Psychology)

Graduate student preliminary examination committee member:

2008 Nina Hsu (Neuroscience)
 2008 Michael Bonner (Neuroscience)
 2006 Joshua Jacobs (Neuroscience)
 2006 Kartik Sreenivasan (Neuroscience)
 2005 Daniel Drucker (Psychology)
 2004 Athena Atkipis (Psychology)
 2003 Bei Xiao (Neuroscience)

Undergraduate Independent Study Students

2008-9 Calypso Montouchet (Visual Studies; Senior Thesis)
 2007-8 Ross Avila (Psychology; Senior Thesis)
 2007-8 Gisela Garrett (Visual Studies; Senior Thesis)
 2004-6 Whitney Parker (Biological Basis of Behavior; Senior Honors Thesis)
 (Eliot Stellar award for most outstanding honors thesis presentation by a
 BBB major)
 2005-6 Santiago Tenorio (Visual Studies; Senior Thesis)
 2005-6 Carlos Ferrer (Visual Studies; Senior Thesis)
 2004-5 Karen Jablonski (Biological Basis of Behavior; Senior Honors Thesis)
 2003 David Pendorff (Cognitive Science; Independent Study)

PUBLICATIONS

Peer-Reviewed Journal Articles

- Epstein, R. A.** (2008). Parahippocampal and retrosplenial contributions to human spatial navigation. *Trends in Cognitive Science*, 12, 388-396.
- Epstein, R.A.,** Parker, W.E. & Feiler, A.M. (2008). Two kinds of fMRI repetition suppression? Evidence for dissociable neural mechanisms. *Journal of Neurophysiology*, 99: 2877-2886.
- Dove, A., Manly, T., **Epstein, R.** & Owen, A.M. (2008). The engagement of mid-ventrolateral prefrontal cortex and posterior brain regions in intentional cognitive activity. *Human Brain Mapping*, 29: 107-119.
- Macevoy, S.P. & **Epstein, R.A.** (2007). Position selectivity in scene- and object-responsive occipitotemporal regions. *Journal of Neurophysiology*, 98: 2089-2098.

- Epstein, R.A.,** Parker, W.E. & Feiler, A.M. (2007). Where am I now? Distinct roles for parahippocampal and retrosplenial cortices in place recognition. *Journal of Neuroscience*, 27: 6141-6149.
- Epstein, R.A.,** Higgins, J.S. Jablonski, K., & Feiler, A. (2007). Visual scene processing in familiar and unfamiliar environments. *Journal of Neurophysiology*, 97: 3670-3683.
- Epstein, R.A.** & Higgins, J.S. (2007). Differential parahippocampal and retrosplenial involvement in three types of visual scene recognition. *Cerebral Cortex*, 17: 1680-1693.
- Hon, N., **Epstein, R.A.,** Owen, A.M. & Duncan, J. (2006). Frontoparietal activity with minimal decision and control. *Journal of Neuroscience*, 26: 9805-9809.
- Epstein, R.A.,** Higgins, J.S., Parker, W., Aguirre, G.K. & Cooperman, S. (2006). Cortical correlates of face and scene inversion: A comparison. *Neuropsychologia*, 44: 1145-1158.
- Gauthier, I., Curby, K.M., Skudlarski, P. & **Epstein, R.A.** (2005). Individual differences in FFA activity suggest independent processing at different spatial scales. *Cognitive, Affective & Behavioral Neuroscience*, 5: 222-234.
- Epstein, R.A.** (2005). The cortical basis of visual scene processing. *Visual Cognition*, 12: 954-978.
- Lee, A.C.H., Bussey, T.J., Murray, E.A., Saksida, L.M., **Epstein, R.A.,** Kapur, N., Hodges, J.R. & Graham, K.S. (2005). Perceptual deficits in amnesia: challenging the medial temporal lobe 'mnemonic' view. *Neuropsychologia*, 43: 1-11.
- Epstein, R.A.,** Higgins, J.S. & Thompson-Schill, S.L. (2005). Learning places from views: Variation in scene processing as a function of experience and navigational ability. *Journal of Cognitive Neuroscience*, 17: 73-83.
- Epstein, R.** (2004). Art, consciousness, and the brain: Lessons from Marcel Proust. *Consciousness & Cognition*, 13: 213-240.
- Epstein, R.,** Graham, K.S. & Downing, P.E. (2003). Viewpoint-specific scene representations in human parahippocampal cortex. *Neuron*, 37: 865-876.
- Epstein, R.,** DeYoe, E.A., Press, D.Z., Rosen, A.C. & Kanwisher, N. (2001). Neuropsychological evidence for a topographical learning mechanism in parahippocampal cortex. *Cognitive Neuropsychology*, 18: 481-508.
- Epstein, R.** (2000). The neural-cognitive basis of the Jamesian stream of thought. *Consciousness & Cognition*, 9: 550-575. [Response to commentary on this article: **Epstein, R.** (2000). Substantive thoughts about substantive thoughts: A reply to Galin. *Consciousness & Cognition*, 9: 584-590.]
- Yuille, A.L., Snow, D., **Epstein, R.** & Belhumeur, P.N. (1999). Determining generative models of objects under varying illumination: Shape and albedo from multiple images using SVD and integrability. *International Journal of Computer Vision*, 35: 203-222.

Epstein, R. & Kanwisher, N. (1999). Repetition Blindness for locations: Evidence for automatic spatial coding in an RSVP task. *Journal of Experimental Psychology: Human Perception and Performance*, 25: 1855-1866.

Epstein, R., Harris, A., Stanley, D. & Kanwisher, N. (1999). The parahippocampal place area: Recognition, navigation, or encoding? *Neuron*, 23: 115-125.

Epstein, R. & Kanwisher, N. (1998). A cortical representation of the local visual environment. *Nature*, 392: 598-601.

Publications in Conference Proceedings

Epstein, R., Yuille, A.L. & Belhumeur, P.N. (1996). Learning object representations from lighting variations. In *Object Representation in Computer Vision II: ECCV 96 International Workshop*, J. Ponce, A. Zisserman & M. Hebert, eds. Springer Lecture Notes in Computer Science, 179-199.

Epstein, R., Hallinan, P.W. & Yuille, A.L. (1995). 5 ± 2 eigenimages suffice: An empirical investigation of low-dimensional lighting models. In *Proceedings of the IEEE Workshop on Physics-Based Modeling in Computer Vision*, 108.

Epstein, R. & Yuille, A.L. (1994). Training a general purpose deformable template. In *Proceedings of the First IEEE Conference on Image Processing, Vol. 1*. Austin, TX: IEEE Society Press, 203-207.

Book Chapters

Kanwisher, N., Downing, P., **Epstein, R.**, & Kourtzi, Z. (2001). Functional Neuroimaging of Human Visual Recognition. In R. Cabeza and A. Kingstone (Eds.), *The Handbook on Functional Neuroimaging*, pp. 109-152. Cambridge MA: MIT Press.

Owen, A.M., **Epstein, R.** & Johnsrude, I.S. (2001). fMRI: Applications to Cognitive Neuroscience. In P. Jezzard, P.M. Matthews and S.M. Smith (Eds.), *Functional Magnetic Resonance Imaging of the Brain: Methods for Neuroscience*, pp. 311-327. Oxford: Oxford University Press.

Popular Press Articles

Sukel, K. & **Epstein, R.** (2007). Building for the shattered mind: Partnering brain science and architecture. *Cerebrum: The Dana Forum on Brain Sciences*. Published online.

ABSTRACTS/CONFERENCE PRESENTATIONS

Macevoy, S.P. & **Epstein, R.A.** (2009). The sum of its parts? Decoding the representation of multiple simultaneous stimuli in human object-selective cortex. May 2009, Vision Sciences Society, Naples FL.

Epstein, R.A., Smith, M.E. & Ward, E.J. (2009). What is the function of the parahippocampal place area? Testing the context hypothesis. May 2009, Vision Sciences Society, Naples FL.

- Macevoy, S.P. & **Epstein, R.A.** (2008). The sum of its parts? Decoding the representation of multiple simultaneous stimuli in human object-selective cortex. Nov 2008, Society for Neuroscience, Washington DC.
- Schinazi, V. & **Epstein, R.A.** (2008). Memory for route direction in real-world navigation. Nov 2008, Society for Neuroscience, Washington DC.
- Epstein, R.A.** & Ward, E.J. (2008). How reliable are "context" effects in the parahippocampal place area? Nov 2008, Society for Neuroscience, Washington DC.
- Ward, E.J., Parker, W.E., Feiler, A.M. & **Epstein, R.A.** (2008). Adaptation for individual places but not for place categories in scene-selective cortical regions. May 2008, Vision Sciences Society, Naples FL.
- Macevoy, S.P. & **Epstein, R.A.** (2007). Position selectivity in human scene- and object-responsive occipitotemporal regions. Oct. 2007, Society for Neuroscience, San Diego CA.
- Feiler, A., **Epstein, R.A.** & Aguirre, G.K. (2007). The map in the brain: Distributed cortical representations of large-scale space. May 2007, Vision Sciences Society, Sarasota FL.
- Parker, W., Higgins, J.S., Feiler, A. & **Epstein, R.A.** (2007). Two kinds of fMRI repetition suppression? May 2007, Vision Sciences Society, Sarasota FL.
- Macevoy, S. & **Epstein, R.A.** (2007). Position-invariant fMRI adaptation effects in scene-selective regions. May 2007, Vision Sciences Society, Sarasota FL.
- Epstein, R.A.**, Parker, W. & Feiler, A. (2006). Where is this place? Distinct roles for parahippocampal and retrosplenial cortices in topographical memory retrieval. Oct. 2006, Society for Neuroscience, Atlanta GA.
- Epstein, R.A.** & Higgins, J.S. (2006). Parahippocampal and retrosplenial involvement in two kinds of scene recognition. May 2006, Vision Sciences Society, Sarasota FL.
- Epstein, R.A.** & Higgins, J.S. (2005). Where is it? What is it? What's going on? Neural correlates of three different scene recognition tasks. Nov. 2005, Society for Neuroscience, Washington DC.
- Epstein, R.A.**, Higgins, J.S. & Jablonski, K. (2005). Scene processing in familiar and unfamiliar environments. April 2005, Cognitive Neuroscience Society, New York.
- Hon, N., Duncan, J., **Epstein, R.** & Owen, A. (2004). On the role of the frontoparietal network: Attention, task, or awareness? June 2004, Organization of Human Brain Mapping, Budapest.
- Epstein, R.** & Higgins, J.S. (2004). Moving forward, moving left, and spinning in place: An fMRI study of spatial transformations of the body. May 2004, Vision Sciences Society, Sarasota FL.
- Higgins, J.S. & **Epstein, R.** (2004). Moving forward, moving left, and spinning in place: An fMRI study of spatial transformations of the body. April 2004, Cognitive Neuroscience Society, San Francisco CA.
- Lee, A.C.H., Buckley, M.J., **Epstein, R.**, Gaffan, D., Hodges, J.R., & Graham, K.S. (2003). The role of human perirhinal cortex in visual perception. *Society for Neuroscience Abstracts*, 29.

- Thompson-Schill, S. L., Higgins, J. S., & **Epstein, R.** (2003). Individual differences in navigational ability predict viewpoint-specific priming in parahippocampal cortex. *Society for Neuroscience Abstracts*, 29.
- Epstein, R.**, Thompson-Schill, & S. L., Higgins, J. S. (2003). Viewpoint-specific and viewpoint-invariant scene priming in parahippocampal cortex. *Society for Neuroscience Abstracts*, 29.
- Epstein, R.**, Hon, N. & Duncan, J. (2003). Neural signature of consciously-perceived visual events. May 2003, Vision Sciences Society, Sarasota FL.
- Gauthier, I. & **Epstein, R.** (2002). Spatial frequency channels in the human FFA. June 2002, Organization for Human Brain Mapping, Sendai, Japan.
- Epstein, R.**, Graham, K.S., Kanwisher, N. & Downing, P.E. (2002). Scene representations in the parahippocampal place area are viewpoint-specific. May 2002, Vision Sciences Society, Sarasota FL.
- Epstein, R.** (2002). Topography of visual scene representation in human occipitotemporal cortex: An event-related fMRI study. April 2002, Cognitive Neuroscience Society, San Francisco, CA.
- Gauthier, I. & **Epstein, R.** (2001). The role of spatial frequencies in face-selective areas: Task-dependent effects. *NeuroImage*, 13 (6): S883.
- Epstein, R.** & Kanwisher, N. (2001). Mnemonic functions of parahippocampal cortex: An event-related fMRI study. *NeuroImage*, 13 (6): S663.
- Epstein, R.**, DeYoe, E.A., Press, D.Z., & Kanwisher, N. (2000). Parahippocampal cortex lesions impair the ability to learn new scenes. April 2000, Cognitive Neuroscience Society, San Francisco, CA.
- Gauthier, I. **Epstein, R.** & Gore, J.C. (1999). The contribution of high and low spatial frequencies to the processing of objects, faces and scenes. April 1999, Cognitive Neuroscience Society, Washington D.C.
- Epstein, R.**, Kanwisher, N., Stanley, D. & Harris, A. (1998). The parahippocampal place area: Perception, memory, or route-planning? *Society for Neuroscience Abstracts*, 24: 594.9.
- Epstein, R.** & Kanwisher, N. (1998). The parahippocampal place area: A cortical representation of the local visual environment. *NeuroImage*, 7 (4): S341.
- Epstein, R.** & Kanwisher, N. (1998). The parahippocampal place area: A cortical region specialized for the perception of spatial layout. *Investigative Ophthalmology and Visual Science*, 39 (4), 4169.
- Epstein, R.** & Kanwisher, N. (1998). The parahippocampal place area: A cortical representation of the local visual environment. April 1998, Cognitive Neuroscience Society, San Francisco CA.
- Epstein R.** & Kanwisher, N. (1998). A cortical region specialized for the perception of scenes but not objects. February 1998. Eastern Psychological Association, Boston MA.
- Epstein R.** & Kanwisher, N. (1997). fMRI reveals a double dissociation between object and scene perception. November 1997. Object Perception and Memory Workshop, Philadelphia PA.

Epstein, R. & Kanwisher, N. (1996). Repetition blindness for locations. November 1996.
Psychonomics Society, Chicago IL.