Alison R. Preston, PhD

Curriculum Vitae

Assistant Professor
Center for Learning & Memory
Department of Psychology
Section of Neurobiology
The University of Texas at Austin
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Positions

Assistant Professor of Psychology, The University of Texas at Austin	2007 – Present
Adjunct Faculty, Section of Neurobiology, The University of Texas at Austin	2008 – Present
Fellow, Center for Learning and Memory, The University of Texas at Austin	2007 – Present
Faculty Affiliate, Institute for Neuroscience, The University of Texas at Austin	2007 – Present
Faculty Affiliate, Imaging Research Center, The University of Texas at Austin	2007 – Present

Academic History

Postdoctoral Fellow, Stanford University, Department of Psychology	2004 – 2007
PhD, Stanford University, Psychology (Cognitive Neuroscience)	2004
MA, Stanford University, Psychology (Cognitive Neuroscience)	2001
BA, University of Pennsylvania summa cum laude with honors in Psychology	1997

Research Interests

- Neural basis of human memory using functional magnetic resonance imaging (fMRI)
- Functional contributions of medial temporal lobe substructures to episodic memory
- Attentional, motivational, and emotional modulation of memory in the medial temporal lobe
- Medial temporal lobe function in schizophrenia

Professional Memberships

American Psychological Association
American Psychological Society
Cognitive Neuroscience Society
International Society for Behavioural Neuroscience (*Elected*)
Society for Neuroscience

Awards and Funding

Young Investigator Award *($60,000*) 2010 – 2011
National Alliance for Research on Schizophrenia and Depression

Young Investigator Program Award *($295,508*) 2009 – 2012
Army Research Office

Semi-finalist Mental Health Research Grants for Junior Faculty in Texas 2009
Hogg Foundation for Mental Health

Awards and Funding (cont.)

Finalist Brain and Immuno-imaging Program 2008
The Dana Foundation

Faculty Development Summer Research Assignment (*2 months salary*) 2008
UT Graduate School

Undergraduate Research Apprenticeship Program (*$2,000*) 2008
UT College of Liberal Arts

Faculty Travel Grant (*$1,200*) 2007
UT Office of Graduate Studies

Postdoctoral Individual National Research Service Award 2004 – 2007
National Institute of Mental Health

Predoctoral Individual National Research Service Award 2001 – 2004
National Institute of Mental Health

Predoctoral Institutional National Research Service Award 1998 – 1999
National Institute of Mental Health

Honorable Mention National Science Foundation Graduate Fellowship 1998

Advisor for Grants, Fellowships, and Awards

APA Diversity in Neuroscience Graduate Fellowship 2009 – 2011
Awarded to Sasha Wolosin (Ph.D. student)

The Dean's Scholars Honors Program, UT Austin 2009
Funding for Summer Research
Awarded to Christine Manthuruthil (Undergraduate student)

Excellence in Human Development, Family, and Social Science Research 2009
College of Natural Sciences Undergraduate Research Forum, UT Austin
Awarded to April Dominick and Nicholas Franklin (Undergraduates)

Undergraduate Research Fellowship (*$1000*) 2009
University Cooperative Society, UT Austin
Awarded to April Dominick (Undergraduate student)

Undergraduate Research Fellowship (*$1000*) 2009
University Cooperative Society, UT Austin
Awarded to Nicholas Franklin (Undergraduate student)

Academic Advising

Postdoctoral Fellows
Dasa Zeithamova 2008 – present

Graduate Students

Jackson Liang (Neuroscience)	2009 – present, dissertation advisor
Leslie Ramsey (Neuroscience)	2008, rotation advisor
Vito Ruiz (Neuroscience)	2008, rotation advisor
Sasha Wolosin (Psychology)	2008 – present, dissertation advisor

Membership on Graduate Committees (outside of my lab)

Tyler Davis (Psychology)	2008 – present, dissertation committee
Dean Kirson (Neuroscience)	2008, qualifying exam committee
Dasa Zeithamova (Neuroscience)	2008, committee member

Postgraduate and Undergraduate Researchers

UT Austin

Manoj Doss	Present
April Dominick	Present
Nicholas Franklin	R.A., Sackler Institute
Adithy Iyengar	2008 – 2009
Lauren Johns	2009
**Christine Manthuruthil	present
Cameron Nobile	present
Chetna Pande	2007 – 2008
Nicolaus Schmandt (UT Austin)	Ph.D. student, Case Western
Caroline Taylor	present

Stanford University

**Meghan Gaare	M.D., University of Virginia, 2009
Robert Kwon	M.D., UMDNJ, 2005
Jane Lange	Ph.D. student, Biostatistics, UW
Gwen Lawson	B.A., Stanford, 2009
**Yael Shrager	Postdoctoral fellow, Harvard
Kat Snyder	Ph.D. student, Psychology, UT Austin
Davie Yoon	Ph.D. student, Psychology, Stanford

High School Researchers

Alison Ban	2008

**Honors Research

Teaching

UT Austin

Cognitive Neuroscience-W, PSY 341K, Instructor (*Rating 4.4*)	2009, 2010
Cognitive Sciences, PSY 394U, Guest Lecturer	2007, 2008, 2009
Principles of Neuroscience I, NEU 382T, Guest Lecturer	2008
Principles of Neuroscience II, NEU 383T, Guest Lecturer	2009

Stanford University

The Nervous System, NEU 200, Guest Lecturer	2005
Introduction to Neuroscience, PSY 128S, Instructor	2002
Cognitive Neuroscience, PSY 202, TA	2001, 2002
Learning & Memory, PSY 210, TA	2001
Perception, PSY 30, TA	2000, 2001

Stanford University (cont.)

Cognitive Psychology, PSY 109S, Instructor	2000
Introduction to Psychology, PSY 1, TA (Head TA 2000)	1999, 2000

Journal and Grant Reviewing

Archives of General Psychiatry
Brain and Cognition
Cerebral Cortex
Hippocampus
Human Brain Mapping
Journal of Neuroscience
Learning & Memory
National Science Foundation
Neuroimage
Neuron
Neuropsychologia
Neuropsychology
Schizophrenia Bulletin
Trends in Cognitive Science

Service

UT Austin

Imaging Research Center Safety Committee	2008
Imaging Research Center Scanner Upgrade Committee	2008
Institute for Neuroscience Seminar Committee	2008 – 2009
Faculty Search Committee, Center for Learning and Memory	2007 – present
Cognitive Graduate Admissions Committee, Psychology	2007 – present
Active in Student Recruitment for Psychology and Neuroscience	2008 – present

Stanford University

Cognitive Faculty Search Committee, Psychology	2000 – 2002
Graduate Education Committee, Psychology	2000 – 2001
Graduate Student Department Representative, Psychology	1999 – 2003
Cognitive Graduate Admissions Committee, Psychology	1999 – 2000

Outreach

University

Invited Lecture, Professional Development Series, UT Austin Learning Center	2010
Invited Presentation, Science Study Break, UT Life Science Library	2010
Lab Presentation at UT Austin Research Week	2009
Presentation to Texas Exes Alumni Class of 1959	2009

Community

Presentations at "*Memory Matters"* Annual CLM Public Lecture Series	2008, 2009
Provided Audio Commentary for the Exhibition "The Lining of Forgetting: Internal and External Memory in Art," Austin Museum of Art	2009

Publications

Dudukovic, N.M., **Preston, A.R.,** Archie, J.J., Glover, G.H. & Wagner, A.D. High-resolution fMRI reveals match enhancement and attentional modulation in the human medial temporal lobe. *Accepted with minor revisions to Journal of Cognitive Neuroscience.*

Preston, A.R., Bornstein, A.M., Hutchison, J.B., Gaare, M.E., Glover, G.H., & Wagner, A.D. (2009). High-resolution fMRI of content-sensitive subsequent memory responses in human medial temporal lobe. *Journal of Cognitive Neuroscience,* 22(1), 156-173.

Ragland, J.D., Cools, R.*, Frank, M.*, Pizzagalli, D.A.*, **Preston, A.*,** Ranganath, C.*, & Wagner, A.D.* (2009). CNTRICS final task selection: Long-term memory. *Schizophrenia Bulletin,* 35(1), 197-212. *Authors had equal contribution.

Preston, A.R., & Gabrieli J.D.E. (2008). Dissociation between explicit memory and configural memory in the human medial temporal lobe. *Cerebral Cortex,* 18(9), 2192-207.

Brewer, J.B., Gabrieli, J.D.E., **Preston, A.R.**, Vaidya, C.J., & Rosen, A.C. (2007). Memory. In C.G. Goetz (Ed.), *Textbook of Clinical Neurology, 3rd ed.* New York: Elsevier.

Preston, A.R., & Wagner, A.D. (2007). The medial temporal lobe and memory. In R.P. Kesner & J.L. Martinez, Jr., (Eds.), *The Neurobiology of Learning & Memory, 2nd Edition.*

Preston, A.R., Shohamy, D., Tamminga, C.A., & Wagner, A.D. (2005). Hippocampal function, memory, and schizophrenia: Anatomical and functional neuroimaging considerations. *Current Neurology and Neuroscience Reports, 5*(4), 249-256.

Preston, A.R., Shrager, Y., Dudukovic, N.M., & Gabrieli, J.D.E. (2004). Hippocampal contribution to the novel use of relational information in declarative memory. *Hippocampus, 14*(2), 148-152.

Preston, A.R., Thomason, M.E., Ochsner, K.N., Cooper, J.C., & Glover, G.H. (2004). Comparison of spiral-in/out and spiral-out BOLD fMRI at 1.5T and 3T. *NeuroImage, 21*(1), 291-301.

Gabrieli, J.D.E., & **Preston, A.R.** (2003). Working smarter not harder. *Neuron, 37*(2), 191-192.

Gabrieli, J.D.E., & **Preston, A.R.** (2003). Visualizing genetic influences on human brain function. *Cell, 112*(2), 144-145.

Gabrieli, J.D.E., **Preston, A.R.**, Brewer, J.B., & Vaidya, C.J. (2003). Memory. In C.G. Goetz (Ed.), *Textbook of Clinical Neurology, 2nd ed.* New York: Elsevier.

Preston, A.R., & Gabrieli, J.D.E. (2002). Different functions for different medial temporal lobe structures? *Learning and Memory, 9*, 215-217.

Disterhoft, J.F., Carrillo, M., Fortier, C., Gabrieli, J.D.E., Knuttinen, M.-G., McGlinchey-Berroth, R., **Preston, A.R.**, & Weiss, C. (2002). Impact of temporal lobe amnesia, aging, and awareness on human eyeblink conditioning, In L.R. Squire & D.L. Schacter (Eds.), *The Neuropsychology of Memory, 3rd Edition. New* York: Guilford.

Knuttinen, M.-G., Power, J.M., **Preston, A.R.**, & Disterhoft, J.F. (2001). Awareness in classical differential eyeblink conditioning in young and aging humans. *Behavioral Neuroscience*, *115*(4), 747-757.

Weiss, C., **Preston, A.R.**, Schwarz, R.D., Welty, D., & Disterhoft, J.F. (2000). The M1 muscarinic agonist CI1017 facilitates hippocampally-dependent trace eyeblink conditioning in aging rabbits and increases the excitability of CA1 pyramidal neurons. *Journal of Neuroscience*, *20*(2), 783-790.

Disterhoft, J.F., Kronforst-Collins, M., Oh, M.M., Power, J.M., **Preston, A.R.**, & Weiss, C. (1999). Cholinergic facilitation of trace eyeblink conditioning in aging rabbits. *Life Sciences*, *64* (6-7), 541-548.

Manuscripts Submitted or in Preparation

Davis, T.H., Love, B.C., & **Preston, A.R.** (*In preparation*). Neural systems engaged when learning exceptions to the rule: Insights from a model-based approach.

Preston, A.R., Liang, J.C., & Wagner, A.D. (*In preparation*). Content-sensitive novelty responses in the human medial temporal lobe.

Zeithamova, D., & **Preston, A.R.** (*Submitted*). Flexible memories: Hippocampal contributions to generalization of rapidly acquired experience.

Articles in the Popular Press

Preston, A.R. (2007). Ask the Expert: How does short-term memory work in relation to long-term memory? Are short-term daily memories somehow transferred to long-term storage while we sleep? *Scientific American.*

Talks

2009

Symposium on Advances in Understanding Neural Contributions to Associative Memory, International Society for Behavioral Neuroscience (ISBN), Hilton Head, South Carolinas
Symposium, "Content Specific Memory in the Medial Temporal Lobe: Yes or No?" Memory Disorders Research Society (MDRS), Chapel Hill, North Carolina

2008

Future Directions in Neuroergonomics and Neuromorphics, The University of Maryland
The Neurological Institute, Methodist Hospital, Houston, Texas
Memory Matters, University of Texas at Austin

2007

Cognition and Perception Seminar, Department of Psychology, The University of Texas at Austin
Center for Learning and Memory Annual Retreat, The University of Texas at Austin

2006

Department of Cognitive Sciences, University of California Irvine
Department of Psychology, Columbia University
Department of Psychology, University of Michigan
Center for Learning & Memory, University of Texas at Austin

2004

fMRI Colloquium, Department of Radiology, Stanford University

2003

Friday Cognitive Seminar, Department of Psychology, Stanford University

Talks (cont.)

2002

Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology
Friday Cognitive Seminar, Department of Psychology, Stanford University

Conference Presentations (2005 – present)

Davis, T.H., Love, B.C., & **Preston, A.R.** (2010). Learning exceptions to the rule: High-resolution fMRI of hippocampal subfield contributions to category learning. Cognitive Neuroscience Society Abstracts.

Liang, J.C., Wagner, A.D., & **Preston, A.R.** (2010). Content-sensitive novelty encoding in the medial temporal lobe: Insights from high-resolution fMRI and distributed pattern analysis. Cognitive Neuroscience Society Abstracts.

Zeithamova, D., & **Preston, A.R.** (2010). Reactivation of prior experience during encoding of overlapping events supports generalization. Cognitive Neuroscience Society Abstracts.

Davis, T.H., Love, B.C., & **Preston, A.R.** (2009). Neurobiology of exception learning: Model-based predictions for interactions between medial temporal lobe and dopaminergic midbrain. Society for Neuroscience. Online.

Wolosin, S.M., Liang, J.C., Zeithamova, D., Schmandt, N.T., & **Preston, A.R.** (2009). Reward modulation of hippocampal subregions during motivated associative encoding. Society for Neuroscience. Online.

Zeithamova, D., Schmandt, N.T., & **Preston, A.R.** (2009). High-resolution fMRI of medial temporal lobe contributions to rapid integrative encoding and generalization of associative memories. Society for Neuroscience. Online.

Davis, T.H., Love, B.C., & **Preston, A.R.** (2009). The neural basis of learning exceptions to a category rule. Cognitive Neuroscience Society Abstracts.

Tamminga, C.A., Thomas, B., Mihalakos, P., Kirane, H., Lu, H., **Preston, A.R.**, Shohamy, D., & Wagner, A.D. (2009). Alterations in hippocampal function in schizophrenia. International Congress of Schizophrenia Research Abstracts.

Wolosin, S.M., Zeithamova, D., Schmandt, N.T., & **Preston, A.R.** (2009). Reward modulation of medial temporal lobe subregions during associative encoding and cued recall. Cognitive Neuroscience Society Abstracts.

Zeithamova, D., Schmandt, N.T., & **Preston, A.R.** (2009). Medial temporal lobe contributions to rapid acquisition and flexible transfer of episodic memories. Cognitive Neuroscience Society Abstracts.

Hutchinson, J.B., Cristo, Y., **Preston, A.R.**, & Wagner, A.D. (2008). Frontal and parietal correlates of graded recollection during episodic retrieval. Cognitive Neuroscience Society Abstracts.

Cook Reeck, C.L., **Preston, A.R.**, Lawson, G.M., & Wagner, A.D. (2007). Encoding predictors of graded source recollection: A high-resolution fMRI study of conjunctive encoding in the medial temporal lobe. Society for Neuroscience. Online.

Chen, J., Olsen, R.K., **Preston, A.R.**, & Wagner, A.D. (2007). Associative retrieval and mismatch signals in the CA fields of human hippocampus. . Society for Neuroscience. Online.

Preston, A.R., Cook, C.L., Lawson, G.M., & Wagner, A.D. (2007). Encoding items and conjunctions: A high-resolution fMRI study of medial temporal lobe contributions to full and partial event encoding. Cognitive Neuroscience Society Abstracts.

Chen, J., Olsen, R.K., **Preston, A.R.**, & Wagner, A.D. (2006). Pattern completion and prediction error in human hippocampus: A high-resolution fMRI study. Society for Neuroscience. Online.

Chin, R., Thomas, B., Mihalakos, P., Shohamy, D., **Preston, A.R.**, Wagner, A.D., & Tamminga, C.A. (2006). Declartive memory in schizophrenia: Antipsychotic drug actions. Society for Neuroscience. Online.

Dudukovic, N.M., **Preston, A.R.**, Archie, J.J., & Wagner, A.D. (2006). Goal directed attention modulates encoding processes in the medial temporal lobe. Cognitive Neuroscience Society Abstracts.

Dudukovic, N.M., **Preston, A.R.**, Archie, J.J., & Wagner, A.D. (2006). Attention-dependent modulation of medial temporal lobe encoding processes. Society for Neuroscience. Online.

Krause, V., Coleman, M.J., Krastoshevsky, O., Gibbs, A., Hall, M.-H., **Preston, A.R.**, Titone, D., & Levy, D.L. (2006). Relational memory organization in schizophrenia patients and normal controls." Society for Research in Psychopathology.

Chin, R., Thomas, B., Shohamy, D., **Preston, A.R.**, Wagner, A.D., & Tamminga, C.A. (2005). Hippocampally-dependent declarative memory deficits in schizophrenia. *2005 Abstract Viewer and Itinerary Planner, 877.26*. Washington, DC: Society for Neuroscience. Online.

Olsen, R.K., Gonsalves, B.D., **Preston, A.R.**, Curran, T., Norman, K.A., & Wagner, A.D. (2005). The effects of perceptual similarity on item recognition and repetition suppression in the medial temporal lobe. Society for Neuroscience. *2005 Abstract Viewer and Itinerary Planner, 769.22*. Washington, DC: Society for Neuroscience. Online.

Preston, A.R., Gaare, M.E., & Wagner, A.D. (2005). High-resolution fMRI of stimulus-specific novelty encoding and subsequent memory responses in human medial temporal lobe. Society for Neuroscience. *2005 Abstract Viewer and Itinerary Planner, 353.4*. Washington, DC: Society for Neuroscience. Online.

Preston, A.R., Gaare, M.E., & Wagner, A.D. (2005). Stimulus-specific novelty encoding and subsequent memory responses in human medial temporal lobe. *Cognitive Neuroscience Society Abstracts.*

Tamminga, C.A., Chin, R., Thomas, B., **Preston, A.R.**, Shohamy, D., & Wagner, A.D. (2005). Declarative memory and schizophrenia: Evidence for altered performance and hippocampal activation. *Organization for Human Brain Mapping Abstracts*.