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Academic History

2003-2006	Postdoctoral Fellow; UCSF / VAMC San Francisco
1999-2003	Gen. Adult Psychiatry Residency, Langley Porter Psychiatric Institute, UCSF
1999	<i>M.D.</i> , Yale University, New Haven, CT
1999	<i>Ph.D.</i> , <i>Neurobiology</i> , Yale University, New Haven, CT
1987	<i>B.A.</i> , <i>Psychology</i> , Emory University, Atlanta, GA
1985-86	<i>Psychology, Philosophy and Physiology</i> , Oxford University, Oxford, UK

Research Experience

Stanford University, Laboratory of John D. E. Gabrieli, Ph.D.
Internal representations of reward modulate episodic memory formation (fMRI)

Real-time fMRI feedback as an adjunct to cognitive behavioral therapy in obsessive-compulsive disorder (pilot fMRI therapeutic application)

UCSF, Laboratories of Michael Merzenich, Ph.D. and Sophia Vinogradov, M.D.
Perception of speech sounds in noise: Temporal but not spectral discriminations are impaired in patients with schizophrenia (psychophysical assessments & magnetoencephalography)

Reward-intensive cognitive remediation in schizophrenic patients: neurocognitive assessments

Yale University, Laboratory of Patricia S. Goldman-Rakic, Ph.D.
Heterarchy rather than hierarchy in human prefrontal cortex as revealed by dual-task performance (fMRI)

Relational memory for non-nameable visual stimuli: Differential contributions of hippocampus and prefrontal cortex (fMRI)

Lesions of anterior hippocampus impair object-object relational memory if reward is held constant (linear-accelerator lesions in Rhesus macaques)

Short delays preferentially activate hippocampus and prefrontal cortex during spatial working memory (High-resolution 2-deoxyglucose metabolic imaging in Rhesus macaques)

Duke University, Department of Psychiatry, Laboratory of James D. Lane, Ph.D.
Physiological (trait) and pharmacological (state) factors influence cardiovascular responses to psychosocial stress

Emory University, Department of Psychology, Laboratories of Robyn Fivush, Ph.D. & Ulric Neisser, Ph.D.

Abstraction of cognitive schemata from novel experiences
Neural network models of individual differences in visual mental imagery

Awards & Honors

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| 2006 | Young Investigator Award, National Alliance for Research on Schizophrenia and Depression |
| 2003 | Creative Resident Award for Outstanding Research, UCSF |
| 2002 | Veteran's Administration Special Fellowship in the Neurosciences |
| 2002 | Young Investigator Award, National Alliance for Research on Schizophrenia and Depression |
| 2001 | NIMH Outstanding Resident Award |
| 1988 | NIH Medical Scientist Training Program Fellowship, Yale University |
| 1987 | <i>Magna cum Laude</i> , Emory University
<i>Phi Beta Kappa</i> , Emory University |
| 1983 | United States Presidential Scholarship
Robert W. Woodruff Scholarship
National Merit Scholarship
<i>Valedictory</i> , Chattanooga Central High School |
| 1982 | Telluride Association Summer Fellow |

Grant Support

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| 2006-2008 | NARSAD Young Investigator Award, <i>Correlated Activation in Midbrain and Hippocampus as a Predictor of Memory: FMRI in Schizophrenic and Control Subjects</i> |
| 2006-2009 | Duke University startup resources |

- 2003-present VAMC Special Fellowship in the Neurosciences
- 2002-2005 NARSAD Young Investigator Award, *Speech Processing Networks in Hallucinating Schizophrenics; Functional Connectivity and Response to Retraining.*
- 2002-2003 Giannini Family Foundation Medical Research Fellowship

University Service

- 2003-present *Wetware* curriculum committee on teaching basic science to psychiatry residents
- 2002- 2004 *Brain, Mind and Behavior* curriculum committee for medical student education
- 2001-present Committee to inaugurate and organize UCSF Psychiatry Department Cognitive Neuroscience day workshops

Teaching

- 2004-2006 *Wetware* neuroscience lectures for psychiatry residents, UCSF
- 2002-2004 Group leader, *Brain, Mind and Behavior* for medical students, UCSF
- 2001 Neuroanatomy for psychiatry residents, UCSF
- 2000 Group leader, *Neurobiology* course for medical students, UCSF
- 1999-2006 Medical student supervision, inpatient and outpatient psychiatry clinics.

Clinical Experience

- 2003-2006 Acting Attending, San Francisco VAMC Outpatient Psychiatry Service
- 2002-2006 Staff Psychiatrist, Schuman-Liles Clinic, Oakland, CA
- 2002-2003 Staff Psychiatrist, Walden House Adolescent, San Francisco
- 2001-2003 Group Leader, Eating Disorders Group, Langley Porter Psychiatric Institute

Professional Experience

- Ad Hoc Referee** Science
Neuron
Behavioral Neuroscience
Cerebral Cortex
European Journal of Neuroscience
American Journal of Psychiatry
Archives of General Psychiatry
Biological Psychiatry
PLoS
Human Brain Mapping

Lectures

- 2007 Motivated Memory Formation: Leverage on Learning. *Invited talk, Radboud University, The Netherlands.*
 Real-time fMRI during Cognitive Behavioral Therapy: Methodology, Initial Results and Potential Applications. *Invited talk, Applied Neuroscience Conference, Nijmegen, The Netherlands.*
 Real-time fMRI as a Tool for Optimizing Learning. *Invited talk, Maastricht University, The Netherlands.*
- 2006 Motivated Memory: Neurobiological Mechanisms and Clinical Implications. *Invited talk, Weill Medical College.*
 Motivated Memory: Neurobiological Mechanisms and Clinical Implications. *Invited talk, Cornell University.*
 Motivated Memory: Neurobiological Mechanisms and Clinical Implications. *Invited talk, University of California, San Francisco.*
 Motivated Memory: Neurobiological Mechanisms and Clinical Implications. *Invited talk, University of Pennsylvania.*
 Motivated Memory: Neurobiological Mechanisms and Clinical Implications. *Invited talk, University of Rochester.*
 Motivated Memory: Neurobiological Mechanisms and Clinical Implications. *Invited talk, Duke University.*
 Motivated Memory: Neurobiological Mechanisms and Clinical Implications. *Invited talk, University of Texas, Southwestern.*
 Cognitive Control, Memory Formation, and Reward: Neurobiological Mechanisms and Clinical Implications. *Invited talk, Vanderbilt University.*
- 2005 Reward-Motivated Learning: Proactive Mesolimbic Influences on Memory Formation. *Bay Area Memory Meeting.*
 Reward-Motivated Learning: Mesolimbic Activation Precedes Memory Formation. *Invited talk, Yale University fMRI Symposium.*
- 2004 Art and Science as Paradigms for Teaching Psychiatry. *UCSF Department of Psychiatry Grand Rounds.*
- 2003 Meaning and Madness: Neural Signals of Behavioral Relevance. *UCSF Creative Resident Award Lecture.*
- 2002 Signal-to-Noise Processing in Auditory Perception and Chronic Hallucinations. *UCSF Department of Psychiatry Research Symposium.*
- 1999 Why Clinical Psychiatrists Need Cognitive Neuroscience. *UCSF Department of Psychiatry Cognitive Neuroscience Workshop.*
- 1998 How To Do Two Things at Once Without Really Trying: The Brain Basis of Dual-task Performance. *Yale University Graduate Research Symposium.*
- 1995 Functional MRI of Human Relational Memory. *Yale University MSTP Research Symposium.*

Publications

Vinogradov, S., **Adcock, R.A.**, Merzenich, M., Reward-Intensive Cognitive Remediation in Schizophrenic Patients. Submitted, *Schizophrenia Research*.

Adcock, R.A., Lutomski, K., MacLeod, S.R., Soneji, D.J., Gabrieli, J.D.E., Glover, G.H., Pauly, J.M., deCharms, R.C. Real-Time fMRI as a Novel Adjunct to Cognitive Behavioral Therapy: Methodology and Exemplary Data. Submitted, *Neuroimage*.

Adcock, R.A., Poole, JH, Vinogradov, S. Reduced Processing Efficiency Contributes to Impairments Across Multiple Neurocognitive Domains in Schizophrenia. In revision, *Journal of the International Neuropsychological Society*.

Adcock, R.A., Thangavel, A., Whitfield-Gabrieli, S., Knutson, B., and Gabrieli, J.D.E. Reward-Motivated Learning: Mesolimbic Activation Precedes Memory Formation. *Neuron*. 50(3):507-17, 2006.

Knutson, B., **Adcock, R.A.** Remembrance of Rewards Past. *Neuron*. 45(3):331-2, 2005.

Adcock, R.A., Constable, R.T., Gore, J.C., Goldman-Rakic, P.S. Functional neuroanatomy of executive processes involved in dual-task performance. *PNAS U S A*. 97(7):3567-72, 2000.

Adcock, R.A. Heterarchical Organization of Human Prefrontal Cortex: Evidence from Functional Magnetic Resonance Imaging. Doctoral Thesis, *Yale University* 1999.

Lane, J.D., **Adcock, R.A.**, Burnett, R.E. Respiratory sinus arrhythmia and cardiovascular responses to stress. *Psychophysiology*. 29(4):461-70, 1992.

Lane, J.D., **Adcock, R.A.**, Williams, R.B., Kuhn, C.M. Caffeine effects on cardiovascular and neuroendocrine responses to acute psychosocial stress and their relationship to level of habitual caffeine consumption. *Psychosomatic Medicine*. 52(3):320-36, 1990 May-Jun.

Adcock, R.A. Children's utilization of novel event representations. Undergraduate Thesis, *Emory University*. 1987.

Manuscripts in Preparation

Adcock, R.A., Vinogradov, S., Merzenich, M. Prediction Influences Temporal but not Spectral Auditory Processing.

Adcock, R.A., Vinogradov, S., Merzenich, M. Temporal but not Spectral Auditory Processing Impairments in Patients with Schizophrenia.

Adcock, R.A., Thangavel, A., Gabrieli, J.D.E. Functional Connectivity of Medial Temporal Lobes During Motivated or Stimulus-Driven Encoding.

Adcock, R.A., Friedman, H.R., Goldman-Rakic, P.S. Preferential Activation of Primate Hippocampus and Prefrontal Cortex by Short Delays in a Spatial Working Memory Task: Information or Modulation?

Adcock, R.A., Shohamy, D. Reward modulation of implicit and explicit learning.

Recent Abstracts

Adcock, R.A., Thangavel, A., Hearst, A., Merzenich, M., Vinogradov, S. Impaired Temporal and Preserved Spectral Processing of Speech Sounds in Noise in Patients with Schizophrenia, *Soc. for Neuroscience Annual Meeting, 2007.*

Adcock, R.A., Thangavel, A., Knutson, B., Whitfield-Gabrieli, S., Gabrieli, J. D. E. Reward-Motivated Learning: Mesolimbic Activation Precedes Memory Formation. *Cognitive Neuroscience Society Annual Meeting, 2006.*

Adcock, R.A., Desain, P., Merzenich, M., Vinogradov, S. Impaired Temporal and Preserved Spectral Processing of Speech Sounds in Noise in Patients with Schizophrenia, *Cognitive Neuroscience Society Annual Meeting, 2006.*

Adcock, R.A., Thangavel, A., Knutson, B., Gabrieli, J. D. E. Motivation Modulates Memory: Neurally Linking Affect and Cognition. *Neuroeconomics Annual Meeting, 2005.*

Adcock, R.A., Lutomski, K., MacLeod, S., Soneji, D.J., Gabrieli, J.D.E., Glover, G., Pauly, J., deCharms, R.C. Real-Time fMRI During the Psychotherapy Session: Toward a Methodology to Augment Therapeutic Benefit, Exemplary Data, *Human Brain Mapping, 2005.*

Adcock, R.A., Thangavel, A., Gabrieli, J. D. E. Functional architecture of reward-motivated learning as revealed by event-related fMRI. *Soc. for Neuroscience Annual Meeting, 2004.*

Vinogradov, S., **Adcock, R.A.,** Fischer, A., Poole, J.H. Neurocognitive findings in schizophrenic subjects with above-average IQ. *Biological Psychiatry. 47(8):77s, 2000.*