

CURRICULUM VITAE

MARK GORDON BARAD

PERSONAL HISTORY:

Born: October 10, 1952 Providence, RI
Citizenship: USA
Marital Status: Married

EDUCATION:

Harvard University, B.A., magna cum laude, 1979. English and American Languages and Literatures.

Yale University, M.D. and Ph.D., 1991. Human Genetics. Thesis title: A Molecular and Genetic Characterization of a Novel *Drosophila* Homeobox Gene, H2.0.

POST-DOCTORAL EXPERIENCE:

Internship in Internal Medicine, Department of Medicine, Yale-New Haven Hospital, New Haven, CT, 1991-1992.

Resident in Psychiatry, Department of Psychiatry, Columbia University and New York State Psychiatric Institute, 1996-1999.

Post-Doctoral Fellow in the laboratory of Eric Kandel, M. D., Center for Neurobiology and Behavior, Columbia University, New York, 1992-1996.

LICENSURE:

Physician License, California, G85383, 1999-present

BOARD CERTIFICATION:

American Board of Psychiatry and Neurology, 2000-present

PROFESSIONAL EXPERIENCE:

Associate Clinical Professor, Step I, Department of Psychiatry and Biobehavioral Sciences, University of California at Los Angeles, Los Angeles, CA 2007-present.

Attending Psychiatrist, Veterans Health Administration, West Los Angeles, CA 2005-present.

Associate Professor in Residence, Department of Psychiatry and Biobehavioral Sciences, University of California at Los Angeles, Los Angeles, CA 2006-2007.

Assistant Professor in Residence, Department of Psychiatry and Biobehavioral Sciences, University of California at Los Angeles, Los Angeles, CA 1999-2006.

Intern in Internal Medicine, Yale-New Haven Hospital, Yale University, New Haven, 1991-1992.

PRE-DOCTORAL AND PROFESSIONAL EXPERIENCE:

Graduate Research Assistant in the laboratory of William McGinnis, Ph. D., Yale University, New Haven, 1985-1991.

Research Assistant in the laboratory of Adelbert Ames, III, M. D., Department of Neurosurgery, Massachusetts General Hospital, Boston, 1982-1984.

Volunteer in Public Health, United States Peace Corps, Zaire, 1980-1982.

PROFESSIONAL ACTIVITIES:

Committee Service:

Interdepartmental Program in Neuroscience Curriculum Committee	1999-2002
Chairman	2002-2003
Neuropsychiatric Institute and Hospital Ethics Committee	2000-2005
UCLA Department in Psychiatry, Residency Revision Curriculum Subcommittee	2000-2005
Joint Seminars in Neuroscience, Speaker Selection Committee	2000-2005
Meet the Professors, Interdepartmental Program in Neuroscience	2000 and 2001
Organized semester of presentations to new graduate students.	
Interdepartmental program in Neuroscience, Written Qualification Exam Committee	2001 and 2002
Greater Los Angeles VA IRB Committee	2005-present

Community Service:

Fairburn Elementary School, Site Council, Member 9/1999-9/2000
 Fairburn Elementary School, Site Council, Secretary 9/2000-6/2001
 Fairburn Elementary School, Science Night 2000, 2001, 2002
 Prepared and presented a learning and memory workshop to parents and students
 each year
 Hosted class trip in my molecular neuroscience lab for students from Fairburn
 Elementary School, 3rd grade and presented Learning and Memory Workshop
 May, 2000, 2001, 2002, 2003
 Lecture to the Los Angeles Psychoanalytic Institute Jan, 2001
 North Hollywood High School, AP Psychology Lectures October, November
 2003

Editorial Services:

Ad hoc reviewer:

2000-present Journal of Neuroscience
 2003-present Biological Psychiatry
 2003-2004 Neuroscience
 2002-2004 Journal of Pharmacology and Experimental

Therapeutics

2003 Journal of Neurochemistry
 2003 Behaviour Research and Therapy
 2003 Neuropsychopharmacology
 2002-present Learning and Memory
 2004-2005 Molecular Psychiatry
 2005 Neuron
 2002-2004 Journal of Neuroscience Research
 2005-2007 Psychopharmacology

Consulting Activities:

Consultant to the Foundation for Psychocultural Research (Los Angeles) from
 2000-2005 in the development of two multidisciplinary conferences:
 "Understanding Trauma" and "Four Dimensions of Childhood."

Consultant to Consortium of American Science Museums in the development of a
 traveling exhibit on Fear entitled "Goosebumps" 2003-2007. Moderator of short
 film on anxiety disorders shown in this exhibit (2007).

Organized and Chaired a Symposium on Extinction at the Society for Neuroscience,
 2003

Co-organized the First International Conference on Extinction, Ponce, PR, 2005.

HONORS and AWARDS:

National Institutes of Health Medical Scientist Training Program, 1984-1991.

Society for Academic Emergency Medicine Award for excellence of a medical student in emergency medicine, 1991.

National Alliance for Research on Schizophrenia and Depression, Young Investigator Award, 1994-1996.

Alumni Award for Excellence in Research, Columbia University Department of Psychiatry, 1999.

UCLA School of Medicine Frontiers of Science Seed Grant, 1999-2000.

National Alliance for Research on Schizophrenia and Depression, Young Investigator Award, 2000-2002.

West Coast College of Biological Psychiatry, Forest Junior Faculty Research Award 2001-2002.

Tennenbaum Scholar, UCLA Neuropsychiatric Institute 2002-2004.

Beck Scholar, Beck Institute for Cognitive Therapy and Research, 2008-2009

RESEARCH GRANTS AND FELLOWSHIPS RECEIVED:

NIH RO1: AA12716-02 cDNA libraries prepared from pure neuronal processes
P.I. Kelsey Martin, MD, PhD
Co-PI 10% 9/1999-8/2004 \$75,516

NIMH K08 MH064532-01A1
Rodent models of anxiety disorder treatment
P.I. 75% 7/2002-6/2005 \$465,900

National Alliance for Research on Schizophrenia and Affective Disorders
(NARSAD)
Young Investigator Award 2000
Mouse models of post-traumatic stress disorder and phobia
P.I. 40% 7/2000-6/2002 \$60,000

California Council for Medicinal Cannabis Research
Cannabis in Fear Extinction
P.I. 10% 11/2004-10/006 \$190,000

NIMH R21 MH072259
Translating Extinction of Fear to Anxiety Disorder Treatment
P.I. 20% 7/2004-6/2006 \$120,000

LECTURES AND PRESENTATIONS:

- 2/2000 UCLA Neuropsychiatry Today, Los Angeles "A Biological Analysis of Transference"
- 2/2000 Invited Grand Rounds, New York State Psychiatric Institute, New York "A Biological Analysis of Transference"
- 10/2001 Lecture, UCLA Neuropsychiatry Today Seminar, Los Angeles "Mouse Models of Anxiety Treatment"
- 4/2001 Invited lecture: American Psychiatric Association, New Orleans "A Biological Analysis of Transference"
- 4/2002 Invited lecture: Alzheimer Disease Center Meeting, Denver "Molecular keys to improved memory"
- 5/2002 Invited lecture: American Psychiatric Association, Philadelphia "Combining pharmacology and therapy"
- 10/2002 Invited lecture: Pavlovian Society, Los Angeles "Learning Extinction: Different Rules, Different Molecules"
- 10/2002 Invited lecture: National Medical Student Conference on Psychiatry and Neuroscience, NYC "The Biology of Psychotherapy"
- 12/2002 Organizer and invited lecture: Foundation for Psychocultural Research Symposium on PTSD, Los Angeles "Learning to feel safe: Different Rules, Different Molecules"
- 4/2003 Invited lecture: Cold Spring Harbor Labs Learning and Memory Meeting. Cold Spring Harbor "LVGCCs in inhibitory learning"
- 4/2003 Invited lecture: First International Workshop on Mouse Models of Psychiatric Disease, Fondation des Treilles, France, "Mechanisms of Fear Extinction: A model of behavior therapy for human anxiety"
- 6/2003 Invited lecture/participant. NIH Workshop on Extinction, Bethesda. "Mechanisms of Fear Extinction"
- 10/2003 Invited lecture. UCLA Brain Mapping Center "Extinction of Fear Conditioning: the biology of therapy."
- 10/2003 Invited lecture. Grand Rounds, Cedars-Sinai Psychiatry, Los Angeles "The Biology of Behavior Therapy."
- 11/2003 Chairman and presenter. Society for Neuroscience Symposium on Fear Extinction, New Orleans "Learning to Feel Safe: Extinction of Conditional Fear"
- 12/2003 Invited lecture. Colloquium. Center for the Neurobiology of Learning and Memory, UC Irvine, Irvine, CA. "Extinction of conditioned fear, a model of inhibitory learning."
- 2/2004 rganizer of First International Conference on Extinction, Ponce, PR, Chair of session and invited lecture, "A Role for the Basolateral Amygdala in the Extinction of Conditioned Fear."
- 07/2004 Invited lecture, Foundation for Psychocultural Research PTSD conference in Yogyakarta, Indonesia 70 "Animal fear and extinction as a model of post-traumatic stress disorder and its treatment."
- 10/2004 Two Invited lectures at the UCLA Annual Review of Psychiatry, Los Angeles "Neurobiology of PTSD" and "Biology of Transference"

- 1/2005 Invited lecture, UCLA Center for Neurovisceral Science and Women's Health, Los Angeles "Fear extinction as a model for anxiety disorder treatment."
- 4/2005 Invited lecture, West Los Angeles VA, Psychiatry Grand Rounds, Los Angeles "What extinction of fear can teach us about psychotherapy."
- 4/2005 Invited lecture, Cold Spring Harbor Laboratory Learning and Memory Meeting, Cold Spring Harbor "The roles of L-type voltage gated channels and GABA(A) receptors in the basolateral amygdala in extinction of fear."
- 5/2005 Invited lecture, Society for Biological Psychiatry Annual Meeting, Atlanta "Role of Calcium Channel Blockers in Extinction."
- 11/2005 Invited lecture, International Society for the Study of Traumatic Stress, Toronto "Multiple Strategies to Facilitate Extinction of Fear in Mice: Clinical Promise"
- 2/2007 Seamless Transition Conference, Veterans Health Administration, Las Vegas "PTSD and the OEF/OIF Veteran."
- 3/2007 Grand Rounds, University of New Mexico, Department of Psychiatry, Albuquerque "What mice can teach us about treating human anxiety disorders."
- 4/2007 Chairman of session on Fear at the Foundation for Psychocultural Research conference on Emotions, UCLA.
- 4/2007 Invited Lecture, Association of Health Care Journalists, Los Angeles, "PTSD in returning vets from Iraq and Afghanistan."
- 2/2008 Invited lecture, American College of Psychiatry, Kauai "Basic Science of Cognitive Behavior Therapy."
- 5/2008 Grand Rounds, Harbor-UCLA Department of Psychiatry, Los Angeles "Basic Science of Cognitive Behavior Therapy"
- 7/2008 Invited lecture, Mitsubishi Kagaku Institute of Life Sciences, Tokyo "Studies of fear extinction: A model for the treatment of human anxiety"
- 7/2008 Invited lecture, Japan Society for Neuroscience, Tokyo "Basic studies of extinction and PTSD treatment: Epigenetics in fear extinction"
- 11/2008 Grand Rounds, Providence St. Joseph Medical Center, Los Angeles "PTSD and the OEF/OIF Vet."
- 12/2008 Grand Rounds, Providence St. Joseph Medical Center, Los Angeles "Basic Science of Cognitive Behavior Therapy"
- 1/2009 Invited Lecture, The Beck Institute, Philadelphia "Behavior Therapy for PTSD"
- 10/2010 Invited Lecture, Fondation J. M. Delwart, Brussels, Belgium. "Studies of fear extinction: A model for the treatment of human anxiety."

BIBLIOGRAPHY:**RESEARCH PAPERS (PEER REVIEWED):**

1. Ames, A., III, Walseth, T.F., Heyman, R.A. **Barad, M.**, Graeff, R. M., and Goldberg, N.D. Light-induced increases in cGMP metabolic flux correspond with electrical responses of photoreceptors. *J. Biol. Chem.* 261, 13034-13042, 1986.
2. Ames, A., III and **Barad, M.** Metabolic flux of cyclic GMP and phototransduction in rabbit retina. *J. Physiol.* 406, 163-170, 1988.
3. **Barad, M.**, Jack, T., Chadwick, R., and McGinnis, W. A novel, tissue-specific, *Drosophila* homeobox gene. *EMBO J.* 7, 2151-2161, 1988.
4. **Barad, M.**, Erlebacher, A., and McGinnis, W. Despite expression in embryonic visceral mesoderm, *H2.0* is not essential for *Drosophila* visceral muscle morphogenesis. *Developmental Genetics* 12, 206-211, 1991.
5. Abel, T., Nguyen, P.V., **Barad, M.**, Deuel, T.A.S., Kandel, E.R., and Bourchouladze, R. Genetic demonstration of a role for PKA in the late phase of LTP and in hippocampus-based long-term memory. *Cell* 88, 615-626, 1997.
6. Martin, K.C., Michael, D., Rose, J.C., **Barad, M.**, Casadio, A., Zhu, H., and Kandel, E.R. MAP kinase translocates into the nucleus of the presynaptic cell and is required for long term facilitation in *Aplysia*. *Neuron*, 18, 899-912, 1997 .
7. **Barad, M.**, Bourchouladze, R., Winder, D.G., Golan, H. and Kandel, E.R. Rolipram, a type IV-specific phosphodiesterase inhibitor, facilitates establishment of long-lasting long-term potentiation and improves memory. *Proc. Natl. Acad. Sci. USA*, 95: 15020-15025, 1998.
8. Bach, M. E., **Barad, M.**, Son, H., Zhuo, M., Lu, Y.-F., Shih, R., Mansuy, I., Hawkins, R. D., and Kandel, E. R. Age-related defects in spatial memory are correlated with defects in the late phase of hippocampal long-term potentiation in vitro and are attenuated by drugs that enhance the cAMP signaling pathway. *Proc Natl Acad Sci U S A.* 96: 5280-5, 1999.
9. Cain, C.K., Blouin, A.M., and **Barad, M.** L-type voltage-gated calcium channels are required for extinction, but not acquisition or expression, of conditional fear in mice. *Journal of Neuroscience*, 15: 9113-21; 2002.
10. Moccia, R., Chen, D., Lyles, V., Kapuya, E., E, Y., Kalachikov, S., Spahn, C.M.T., Frank, J., Kandel, E.R., **Barad, M.** and Martin, K.C. An unbiased cDNA library prepared from isolated *Aplysia* sensory neuron processes is enriched for cytoskeletal and translational mRNAs. *Journal of Neuroscience*, 23:9409-17, 2003.

11. Cain, C.K., Blouin, A.M. and **Barad, M.** Temporally massed CS presentations generate more fear extinction than spaced presentations. *Journal of Experimental Psychology: Animal Behavior Processes*, 29: 323-333; 2003.
12. Cain, C.K., Blouin, A.M. and **Barad, M.** Adrenergic transmission facilitates extinction of conditional fear in mice. *Learning & Memory*, 11:179-187; 2004.
13. **Barad, M.**, Blouin, A.M. and Cain, C.K. Like extinction, latent inhibition of conditioned fear in mice is blocked by systemic inhibition of L-type voltage-gated calcium channels. *Learning and Memory*, 11:536-539; 2004.
14. Cain, C.K., Godsil, B., Jami, S. and **Barad, M.** The L-type calcium channel blocker nifedipine impairs extinction, but not reduced contingency effects in mice. *Learning and Memory*, 12:277-284;2005.
15. Ponnusamy, R., Nissim, H.A. and **Barad, M.** Systemic blockade of D2-like dopamine receptors facilitates extinction of conditioned fear in mice. *Learning and Memory*, 12:299-406;2005.
16. Bredy, T.W., Wu, H., Crego, C., Zellhoefer, J., Sun, Y. E., and **Barad, M.**, Histone modifications around individual BDNF gene promoters in prefrontal cortex are associated with extinction of conditioned fear. *Learning and Memory* 14:268 – 276;2007.
17. Bredy, T.W. and **Barad, M.**, The histone deacetylase inhibitor valproic acid enhances acquisition, extinction, and reconsolidation of conditioned fear. *Learning and Memory* 15:39-45;2008
18. Bredy, T.W. and **Barad, M.** , Social modulation of associative fear learning by pheromone communication. *Learning and Memory* 16:12-18;2008

REVIEWS:

1. Martin, K.C., **Barad, M.**, and Kandel, E.R. Local protein synthesis and its role in synapse-specific plasticity. *Curr. Opin. Neurobiol.*, 10:587-592,2000.
2. **Barad, M.** Later developments: Molecular keys to age-related memory loss. *AlzheimerDisease and Associated Disorders*, 17:168-176;2003.
3. **Barad, M.** Fear extinction in rodents: Basic science to clinical promise. *Current Opinion in Neurobiology* 15:710-715;2005.
4. **Barad, M.** and Saxena, S. Neurobiology of extinction: A mechanism underlying behavior therapy of human anxiety disorders. *Primary Psychiatry* 12:45-51;2005
5. **Barad, M.** Is extinction of fear erasure or inhibition? Why both, of course. *Learning and Memory*, 13:108-109; 2006.

6. **Barad, M.**, Gean, P.-W., and Lutz, B. The role of the amygdala in the extinction of conditioned fear.

Biol Psychiatry 60:322-8; 2006.

7. **Barad, M.** Divide and conquer: An L-type voltage-gated calcium channel subtype finds a role in conditioned fear. *Learning and Memory*, 13, 2006.

8. Davis, M., **Barad, M.**, Otto, M., and Southwick, S. Combining pharmacology with cognitive behavioral therapy: Traditional and New Approaches. *J. Traumatic Stress* 19:571-581;2006.

CHAPTERS:

1. **Barad, M.** Anatomical, Molecular, and Cellular Substrates of Fear Extinction, in *Fear and Learning: From Basic Processes to Clinical Implications* (Eds. M. G. Craske, D. Hermans, and D. Vansteenwegen), 2006, American Psychological Association, Wash, D.C pp. 157-174.

2. **Barad, M.** and Cain, C.K. Mechanisms of Fear Extinction: Toward Improved Treatment for Anxiety in *Understanding Trauma: Integrating biological, Clinical, and Cultural Perspectives* (Kirmayer, L., Lemelson, R. and Barad, M.), Cambridge Univ. Press, Cambridge, 2007, pp. 78-97.

BOOKS:

1, Budimu mBupita Buanga: Bansonolodi; Budimu mBupita Buanga: Baleleshi; Prevenir Vaut Mieux Que Guerir. **Mark Barad** and Kelsey Martin, Catholic Press, Kananga, Zaire, 1982. (My wife and I wrote these three training and reference manuals for an integrated public health program we initiated in a rural zone of 100,000 people as Peace Corps volunteers in Zaire (now the Democratic Republic of Congo). The Tshiluba versions are for the use of village childcare workers and midwives, respectively. The consolidation of the two, in French, is for the use of rural nurses and for training programs elsewhere in Zaire.)

2, Kirmayer, L., Lemelson, R. and **Barad, M.** (eds.) *Understanding Trauma: Integrating biological, Clinical, and Cultural Perspectives*, Cambridge Univ. Press, Cambridge, 2007, 548 pages.

CLINICAL EXPERIENCE:

Attending Psychiatrist and Director, WLA-VHA OEF/OIF PTSD Clinic, 2005-present.

Supervising Attending, UCLA Anxiety Disorders Clinic, 2000-present.

Supervising Attending, UCLA General Outpatient Psychiatry Clinic, 1999-2000.

Private Practice, General Psychiatry, 1999-present.

Board Certified in Psychiatry, April 2000.

AWARDS:

National Institutes of Health Medical Scientist Training Program, 1984-1991.

Society for Academic Emergency Medicine Award for excellence of a medical student in emergency medicine, 1991.

National Alliance for Research on Schizophrenia and Depression, Young Investigator Award, 1994-1996.

Alumni Award for Excellence in Research, Columbia University Department of Psychiatry, 1999.

UCLA School of Medicine Frontiers of Science Seed Grant, 1999-2000.

National Alliance for Research on Schizophrenia and Depression, Young Investigator Award, 2000-2002.

West Coast College of Biological Psychiatry, Forest Junior Faculty Research Award 2001-2002.

Tennenbaum Scholar, UCLA Neuropsychiatric Institute 2002-2004.

Beck Scholar, Beck Institute for Cognitive Therapy and Research, 2008-2009