

## CURRICULUM VITAE

**David M. Diamond, Ph.D.**

### Current Positions

#### **Professor**

Department of Psychology  
Cognitive and Neural Sciences Division  
University of South Florida  
4202 East Fowler Ave. (PCD 4118G)  
Tampa, Florida 33620

#### **Research Career Scientist**

VA Medical Center  
Medical Research  
13000 Bruce B. Downs Blvd.  
Tampa, Florida 33612

**Director, USF Center for Preclinical and Clinical Research on  
Post-Traumatic Stress Disorder**

**Director, USF Neuroscience Collaborative Research Program**

*adjunct appointment in:*

**Department of Molecular Pharmacology and Physiology  
College of Medicine, University of South Florida**

*Telephone:* Office: (813) 974-0480  
USF Lab (813) 974-3022  
VA Lab (813) 972-2000, x-6955  
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*web site:* <http://psychology.usf.edu/faculty/diamond>

### Education and Degrees

B.S. in Biology

University of California, Irvine, 1980

Ph.D. in Biology

University of California, Irvine, 1985

Department of Psychobiology and

Center for the Neurobiology of Learning and Memory

Dissertation Title: *Physiological Plasticity of Single Neurons in  
Auditory Cortex of the Cat During Learning*

### Professional Memberships

Society for Neuroscience  
International Brain Research Organization  
New York Academy of Sciences  
The American Institute of Stress

## Summary of Post-Graduate Academic Progress

1985 – 1986	Postdoctoral Researcher, University of California, Irvine, Center for the Neurobiology of Learning and Memory
1986 – 1997	Instructor/Assistant Professor, Department of Pharmacology, University of Colorado Health Sciences Center, Denver, Colorado
1997 – 2003	Associate Professor, Departments of Psychology and Pharmacology, University of South Florida, Tampa, Florida
2003 – Present	Professor, Departments of Psychology and Pharmacology, University of South Florida, Tampa, Florida
1988 – 2005	Research Scientist, Medical Research, Veterans Administration Medical Center, Denver, Colorado and Tampa, Florida
2005 – Present	Research Career Scientist, Medical Research, Veterans Administration Medical Center, Tampa, Florida
2007 – Present	Director, USF Center for Preclinical and Clinical Research on PTSD

## University/VA Hospital Service

### University of Colorado and University of South Florida

1994 - 1997	Graduate Training Faculty, Univ. of Colorado Health Sci Ctr.
1997 – Present	<u>Chair</u> , Library Committee, Dept. of Psychology, USF
1997 – 2001	Equipment Committee, Dept. of Psychology, USF
1997 – Present	Computer (Technology) Committee, Dept. of Psychology, USF
1999	Faculty Search Committee, Dept. of Communication Sciences and Disorders, USF
2000	Faculty Staff and Library Campaign, USF
2000	Faculty Search Committee, Department of Psychology, USF (Lakeland)
2000 – 2003	Institutional Animal Care and Use Committee, USF
2001 – 2003	Department of Psychology By-Laws Revision Committee
2001 – 2002	<u>Chair</u> , CNS Graduate Admissions Committee
2008 – 2009	University-Task Force: Committee on Research and Scholarship
2002 – Present	Department of Psychology Space Committee
2008 – Present	<u>Director</u> : USF Collaborative Neuroscience Research Program
2009	Department of Psychology Tenure and Promotion Committee
2009 – Present	Faculty Liaison to the USF Board of Trustees: Health Sciences & Research Workgroup
2009 – Present	USF Veterans Re-Integration Committee

### Veterans Affairs Medical Center (Denver and Tampa)

1990 – 1997	Institutional Animal Care and Use Committee, VAMC, Denver
1998 – 2001	Research and Development Committee, VAMC, Tampa
2002 – Present	<i>ad hoc</i> Chair, Hazards and Biosafety Committee
2009 – Present	Research and Development Committee, VAMC, Tampa

## **USF Undergraduate Honors Programs**

### **Department of Psychology Program**

Mary Newman, David Doan, Darien Peckham, Kimberly Canals, Julianne Parish

### **USF Campus-Wide Honors Program (Advisor)**

Sydney McClure, Kimberly Canals, Zayar Khin, Aditi Arynth

### **Undergraduate Directed Research**

Nedda Jacques, Liz Reeher, Melissa LaBoy, Jennifer Alamed, Hayley Carr, Rebecca Diaz, Garbine Mijares, Alysha Palladino, Saritza Legault, Alisa Lee

## **Ph.D./Masters Thesis Advisor**

1998 – 2001	Michael Puls, Amie Wilbanks, Mary Newman (co-advisor)
1998 – 2004	Adam Campbell (Ph.D. awarded in 2004)
2000 – 2002	Leila Amiri
2001 – 2003	Doug Stimac
2004 – 2008	Phil Zoladz (Ph.D. awarded in 2008)
2005 – Present	Josh Halonen
2006 – Present	Shyam Seetharaman

## **Courses Taught at the University of South Florida**

1997 - 1999	Physiological Psychology (Graduate)
1998	Learning and Behavior (Undergraduate)
1999	University Honors Seminar (Undergraduate) Topic: <i>Understanding Animal Intelligence</i>
1999 - 2009	Psychology of Learning (Undergraduate)
2001 - 2009	Graduate/Undergraduate Seminar: <i>Emotion, Memory and Brain</i>
2003 - 2009	Molecular Neuroscience (Graduate - Team Teaching Course)
2004	Graduate/Undergraduate Seminar: <i>Scientific Racism</i>
2009	Graduate/Undergraduate Seminar: <i>Myths and Deception in Medical Research</i>

## **Post-Doctoral Fellows**

University of Colorado (1990 - 1997)	Catherine Bennett, Michael Mesches, Karen Mesches
University of South Florida (1997 – Present)	Collin Park, James Woodson, Rose-Marie Vouimba Seth Norrholm, Adam Campbell, Phillip Zoladz

## **Masters and Dissertation Committees**

### **USF, Department of Psychology (Since 2000)**

Ph.D. Awarded, 2000	Jordan Litman	(Cognitive/Neural Sciences)
Ph.D. Awarded, 2001	Steven Hall	(I/O Psychology)
Ph.D. Awarded, 2002	Deadtrick Newsome	(I/O Psychology)
Ph.D. Awarded, 2002	Cong Liu	(I/O Psychology)
Ph.D. Awarded, 2002	Tony Laverghetta	(Cognitive and Neural Sciences)
Ph.D. Awarded, 2007	Chip Weir	(Clinical Psychology)

Ph.D. Awarded, 2008    Kimberly Badanich    (Cognitive/Neural Sciences)

## **Professional Service**

### **Ad Hoc Grant Reviewer**

Health Research Board, Ireland; National Science Foundation  
International Human Frontier Science Program  
International Science and Technology Center (Moscow)  
National Medical Research Council (Singapore)  
National Institutes of Mental Health  
Natural Sciences and Engineering Research Council of Canada  
Netherlands Organization for Scientific Research  
The University of Houston Grants to Enhance and Advance Research  
VA (VISN 3) New Researcher Seed Grant Program; The Wellcome Trust

### **Participation on Federal Study Sections and Committees**

1997        Neuroscience Minority Fellowship Review Panel  
2002        NIH Integrative, Functional and Cognitive Neuroscience Study Section  
2003        VA Merit Review Study Section: Neurobiology  
2004        NIH Conte Center Panel:        Neuroscience of Mental Disorders  
2004        VA Merit Review Study Section: Neurobiology  
2005        VA Merit Review Study Section: Mental Health Behavioral Science  
2006        NIH Conte Center Panel:        Neurobiology of Learning and Memory  
2007        VA Merit Review Study Section: Mental Health Behavioral Science  
2007        Congressionally Directed Medical Research Programs/Dept. of Defense:  
                 PTSD Research Program/Neurobiology and Genetics Panel  
2008        VA National "Think-Tank" on PTSD Drug Discovery and Development  
2008        Congressionally Directed Medical Research Programs/Dept. of Defense:  
                 Psychological Health/Neurobiology and TBI Panel  
2009        NIMH "*Pathway to Independence*" K99 Study Section  
2009        Military Medical Research Program: PTSD Treatment Study Section  
2010        NIMH "*Pathway to Independence*" K99 Study Section

### **Host to Visiting Scientists and Students**

2002 – 2003    Vernon Haynes, Ph.D., Professor, Dept. of Psychology, Youngstown  
                 State University, Youngstown, Ohio  
2003            Ryan Wright, Graduate Student, Arizona State University, Arizona

### **Scientific Conference Advisory Boards**

- 2002 – 2004 *First, Second and Third Annual Conferences on Non-Linear Dose-Response Relationships in Biology, Toxicology and Medicine, University of Amherst, Massachusetts*
- 2006 *First Annual Workshop on the Stress, Memory and Brain Plasticity; Genova, Italy*
- 2007 *Second Annual Workshop on the Stress, Memory and Brain Plasticity, Amsterdam, Netherlands*
- 2008 *Third Annual Workshop on the Stress, Memory and Brain Plasticity, Villars-sur-Ollon, Switzerland*

### **Outside Member of University Committees**

#### Dissertation Committees

- Ph.D. Awarded, 2003, Irit Akirav, Univ. of Haifa, Israel, Dept. of Psychology
- Ph.D. Awarded, 2006, Dario Dieguez, Univ. of Texas, Dept. of Psychology

#### Undergraduate Honors Committees

- Arizona State University
- Honors Thesis Committee, 2007 Gillian F. Hamilton
- Honors Thesis Committee, 2007 Jessica Wilson

#### Tenure Review Committees

- Terrence Deak, Ph.D., 2006, Binghamton University, New York  
Department of Psychology

### **Membership on Editorial Boards - Associate and Reviewing Editorships**

- *The Journal of Neuroscience Methods (2004 – Present)*
- *Nonlinearity in Biology, Toxicology and Medicine (2004 – 2006)*
- *Medical Science Monitor (2005 – Present)*
- *Dose Response (2006 – Present)*
- *Neural Plasticity (2006 – Present)*
- *Frontiers in Behavioral Neuroscience (2007 – Present)*

### **Guest Editor (2003 - 2006) *Nonlinearity In Biology, Toxicology and Medicine***

Issue theme: *Non-linearities Among Arousal, Memory and Brain Functioning*

### **Ad Hoc Journal Reviewer**

- |   |                                    |
|---|------------------------------------|
| <i>American Journal of Physiology</i>   | <i>Behavioural Brain Research</i>  |
| <i>Behavioral and Brain Functions</i>   | <i>Behavioral Neuroscience</i>     |
| <i>Biological Psychiatry</i>            | <i>Brain and Cognition</i>         |
| <i>Brain Research</i>                   | <i>Brain Research Bulletin</i>     |
| <i>Cerebral Cortex</i>                  | <i>Experimental Brain Research</i> |
| <i>Experimental Neurology</i>           |                                    |
| <i>European Journal of Neuroscience</i> | <i>Hippocampus</i>                 |
| <i>Hormones and Behavior</i>            | <i>Journal of Neurochemistry</i>   |
| <i>Journal of Neurophysiology</i>       | <i>Journal of Neuroimmunology</i>  |

<i>Journal of Neuroscience Methods</i>	<i>Journal of Gerontology</i>
<i>Journal of Neuroscience Research</i>	<i>Journal of Physiology</i>
<i>Medical Science Monitor</i>	<i>Molecular Psychiatry</i>
<i>Nature Reviews Neuroscience</i>	
<i>Neural Plasticity</i>	<i>Neurobiology of Aging</i>
<i>Stress: The International Journal on the Biology of Stress</i>	
<i>Synapse</i>	<i>Neuropharmacology</i>
<i>Methods and Findings in Experimental and Clinical Pharmacology</i>	
<i>Neuropsychopharmacology</i>	<i>Neuroscience</i>
<i>Physiology and Behavior</i>	<i>Physiological Reviews</i>
<i>The Journal of Neuroscience</i>	<i>Trends in Neurosciences</i>
<i>Pharmacology, Biochemistry and Behavior</i>	<i>Psychobiology</i>
<i>Proceedings of the National Academy of Sciences</i>	
<i>Progress in Neuro-Psychopharmacology &amp; Biological Psychiatry</i>	
<i>Psychological Reports: Perceptual and Motor Skills</i>	
<i>The Journal of Pharmacology and Experimental Therapeutics</i>	

### **Community Service**

#### **Interactions with the Community**

January, 1999	Tampa Museum of Science and Industry <i>Representative of the Tampa Bay Society for Neuroscience</i>
1999 - 2001	Ridgewood High School Externship Program <i>Mentor to Kalah Mueller</i>
1999	Hillsborough High School International Baccalaureate Program <i>Mentor to Zach Thomas</i>
2002	USF "Lunch with a Scholar" program <i>Lecture to community leaders on stress, brain and memory</i>
2004 - 2008	The Learning-Brain Expo, Orlando, Florida <i>Lectures to non-scientists about the brain and memory</i>

### **Honors and Awards**

1985	University of California Regents Dissertation Award University of California Dissertation Award
1994, 1995	Excellence in Research Award – VA Medical Center, Denver,
1998	USF Faculty Equipment Award and International Travel Award
2005 - 2009	VA Research Career Scientist Award

## Primary Research Projects

### **Effects of Stress on Brain, Memory and Synaptic Plasticity**

**Summary:** The effects of emotionality, and specifically stress, on learning and memory are complex. Intense stress or trauma can produce pathologically strong and intrusive memories, and also impair concentration and increase forgetfulness. This research program investigates the behavioral, electrophysiological, endocrine and neurobiological basis of the effects of emotionality on learning and memory in rats.

**Notable Findings:** My research has investigated the effects of stress and stress hormones on hippocampal synaptic plasticity *in vitro*, and in anesthetized and behaving rats. We have found that exposing rats to an ethologically relevant stressor (i.e., predator exposure) impaired the induction of synaptic plasticity (primed burst potentiation) which is a physiological model of memory. In studies on memory and stress, we have found that predator exposure selectively impaired hippocampus-dependent memory. In recent work, we have developed an animal model of post-traumatic stress disorder (PTSD), which is a powerful disorder of memory produced in people by exposure to a horrific experience. We have also provided the first evidence of intrusive emotional memories in our rat model of PTSD.

### **Treatment Approaches for Combat Veterans with PTSD**

**Summary:** Traumatic stress produces long-lasting and pathological effects on human behavior and brain functioning. I am currently developing three research projects aimed at improving the treatment outcomes of veterans suffering with PTSD. In one project we are employing a combination of meditation training with improved coping skills to aid Vietnam veterans with PTSD to deal more effectively with their traumatic memories and chronic anxiety. In a second project, we are employing cranial electrical stimulation (CES) as a treatment for combat veterans with PTSD. In a third project, we will be applying recent findings from cognitive neuroscience research to pharmacologically suppress the powerful effect of intrusive traumatic memories on combat veterans with PTSD. This work will involve the delivery of novel medications, in conjunction with cognitive behavior therapy, to produce a long-lasting reduction in PTSD symptomology.

## Connection Between The Laboratory Research Program and Legal Issues

Spring, 1999

### **Texas Wesleyan Law Review**

Research cited in:

*"The unfortunate faith: A solution to the unwarranted reliance upon eyewitness testimony"*, by William David Gross, 5 Tex. Wesleyan Rev., 307.

November, 2004

### **Interactivedads.com**

Good Dads Leaving Kids In Cars: *What's causing dads to forget the kids they love?*

October 24, 2006

### **Dallas Morning News**

A child's death in a vehicle: Unthinkable, yet so real

July, 2007

### **Sentences vary when kids die in hot cars**

Yahoo News:

[http://news.yahoo.com/s/ap/20070728/ap\\_on\\_re\\_us/left\\_to\\_die](http://news.yahoo.com/s/ap/20070728/ap_on_re_us/left_to_die)

Fox News:

<http://www.foxnews.com/wires/2007Jul29/0,4670,LefttoDie,00.html>

January, 2008

### **Scientific Advisor on Brain, Memory and Stress to Zwerling, Leibig & Mosely, P.C.**

Commonwealth of Virginia v. Balfour

*(A child died when a caretaker forgot him in a hot car)*

Outcome: Defendant found not guilty of manslaughter

January, 2008

### **The Hook: COVER- The perfect storm: Family tragedy plays out in court**

<http://www.readthehook.com/stories/2008/01/31/COVER-balfourtrial-REFEED-D.rtf.aspx>

August, 2008

### **Cincinnati Enquirer Editorial: "We must remember: Forgetting a baby's not an impossible lapse"**

<http://news.cincinnati.com/apps/pbcs.dll/article?AID=/20080822/EDIT01/808220365/1019/EDIT>

March, 2009

### **INFANT HYPERTHERMIA-Baby deaths:**

*Tragic failures of memory, not failures of love*

<http://www.parentcentral.ca/parent/article/603836>

July, 2009

**Scientific Advisor and Expert Testimony on Memory and Stress to  
Duane, Morris, LLP**

State of Pennsylvania v. Renni

*(A child died when a caretaker forgot him in a hot car)*

September, 2009

**Psychology professor says forgetting kids is not negligence**

<http://www.chron.com/disp/story.mpl/hotstories/6627317.html>

October, 2009

**Day care operator to stand trial**

<http://www.msnbc.msn.com/id/33322784>

December, 2009

**Day care owner will seek mental infirmity defense**

[http://www.phillyburbs.com/news/local/courier\\_times/courier\\_times\\_news\\_details/article/28/2009/december/30/day-care-owner-will-seek-mental-infirmity-defense.html](http://www.phillyburbs.com/news/local/courier_times/courier_times_news_details/article/28/2009/december/30/day-care-owner-will-seek-mental-infirmity-defense.html)

Manuscript in preparation:

**Diamond, D.M.** and Zoladz, P.R. The neurobiology of inadvertent manslaughter caused by stress-induced memory loss and inattention blindness: A case study

## Subset of Invited Presentations

July, 1985

Max-Planck Institute for Neurobiology; Munich, Germany

*“Rapid Learning-Induced Changes in Sensory Cortical Receptive Fields”*

December, 1987

Winter Conference on Learning and Memory; Steamboat Springs, Colorado

*“Learning-Induces Changes in Sensory Tuning of Single Neurons in Auditory Cortex”*

March, 1993

University of Illinois, Urbana-Champaign, Department of Physiology

*“Effects of Stress and Corticosterone on Hippocampal Function”*

February, 1994

Winter Conference on Neural Plasticity; Grenada, West Indies

*“Impairment of Hippocampal-Dependent Memory by Stress”*

**Session Organizer and Chair: Stress and Synaptic Plasticity**

January, 1995

University of Colorado, Boulder, Department of Psychology,

*“Stress blocks LTP and Hippocampal-Dependent Memory”*

February, 1996

Winter Conference on Neural Plasticity; St. Lucia, West Indies

*“Effects of Neuroactive Steroids on Hippocampal Function”*

**Session Organizer and Chair: Steroidal Modulation of Neural Plasticity**

March, 1996

Israel Institute for Biological Research, New Frontiers in Stress Research:

Modulation of Brain Function; Zichron Ya'akov, Israel,

*“Enhancement of Memory and Electrophysiological Plasticity by Neurosteroids”*

September, 1996

Elba Intl. Neuroscience Program: Neurobiology of Stress; Isola d'Elba, Italy.

*“Stress, Synaptic Plasticity and Memory”*

March, 1997

University of South Florida, Department of Psychology

*“Effects of Stress on Hippocampal Function”*

November, 1997

International Society for Traumatic Stress Studies, 13<sup>th</sup> Annual Meeting;  
Montreal, Quebec, Canada.

*“Treatment Implications of Recent Neuroscience Findings in PTSD”*

April, 1998

Spring Hippocampal Conference; Grand Cayman, British West Indies,

**Session Organizer and Chair: Stress, Glucocorticoids and Hippocampal Function**

*“Stress impairs cognitive and electrophysiological measures of hippocampal function”*

- April, 2000  
 Spring Hippocampal Research Conference; Grand Cayman, British West Indies  
**Session Organizer and Chair: Stress and the Hippocampus**  
*"Vulnerability of the Hippocampus to Psychological Stress"*
- June, 2000  
 Psychobiology 2000, The Israeli Society for Biological Psychiatry; Haifa, Israel  
*"Progress Toward Understanding How the Hippocampus is Affected by Stress"*
- March, 2001  
 20<sup>th</sup> Joint Meeting of the British Endocrine Societies; Belfast, Northern Ireland  
*"Hormones and Stress: Linking Electrophysiology and Cognition"*
- March, 2001  
 Molecular Medicine Centre, University of Edinburgh, Scotland  
*"Adverse Effects of Stress on Brain Plasticity and Memory"*
- March, 2001  
 Department of Psychobiology, Universidad Nacional de Educacion, Madrid, Spain  
*"Behavioral and Hormonal Modulation of Brain Plasticity and Memory"*
- April, 2001  
 Federation of American Societies for Experimental Biology; Orlando, Florida  
**Session Organizer and Chair: Neurobiology of Stress, Memory, Brain Damage and Alzheimer's Disease in Animal Models**
- October, 2001  
 Annual Meeting of the Memory Disorders Research Society; Boston, Massachusetts  
*"Cognitive and Neurobiological Perspectives on the Stress-Induced Enhancement and Impairment of Memory "*
- March, 2002  
 USF "Lunch with a Scholar" Program, University Club of Tampa  
*"Why Does Stress Make Us So Forgetful?"*
- April, 2002  
 Spring Hippocampal Research Conference; Grand Cayman, British West Indies  
**Session Organizer and Chair: Adverse Effects of Stress on Rat and Human Hippocampus**  
*"Task- and Fear-Specific Effects on Hippocampal-Dependent Memory"*
- June, 2002  
 Non-Linear Dose-Response Relationships in Biology, Toxicology and Medicine; University of Massachusetts, Amherst, Massachusetts  
**Session Chair: Biomedical Implications of Non-Linearity**  
*"U-Shaped Functions between Stress Hormones, Brain Plasticity and Memory"*

- May, 2003  
 Second Annual Meeting on Non-Linear Dose Response Relationships In  
 Biology, Toxicology and Medicine; Amherst, Massachusetts  
*"Non-Linear Relationships in Neurosteroid Effects on Memory and Brain  
 Plasticity"*
- July, 2003  
 The Physiological Society; Dublin, Ireland  
*"Cognitive and Physiological Assessment of Stress-Hippocampus Interactions"*
- September, 2003  
 Annual Meeting of the European Brain and Behavior Society; Barcelona, Spain  
*"An Animal Model of Intrusive Emotional Memories"*
- February, 2004  
 VA Medical Center Endocrinology Lecture Series; Tampa, Florida  
*"Opposing Actions of Low versus High Levels of Glucocorticoids on Brain and  
 Behavior in Rats and People"*
- May, 2004  
 Spring Hippocampal Research Conference; Grand Cayman, British West Indies  
*"Predator Stress Impairs Spatial Memory and Rapidly Reduces Hippocampal  
 and Prefrontal NCAM Levels"*
- June, 2004  
 Collegium Internationale Neuro-Psychopharmacologicum; Paris, France  
 Session: Neuroplasticity as an Explanation of the Pathophysiology of  
 Depression: Is the Puzzle Solved?  
 Presentation: *"A Novel Perspective: From Preclinical Research to the  
 Neurobiology Of Depression"*
- June, 2004  
 Department of Neuroscience, University of Amsterdam, Netherlands  
*"Glucocorticoids, Synaptic Plasticity, Stress-Induced Amnesia and  
 Hippocampal Functioning"*
- July, 2004  
 The Learning-Brain Expo; Orlando, Florida  
**Keynote Speaker:** *"Why and How Does Stress Impact Memory?"*  
**Session Leader:** *"Brain Parts at the Intersection of Emotion and Memory"*
- September, 2004  
 Think tank on neuroplasticity; Nice, France  
*"Tianeptine "Protects" Memories from Being Impaired by Stress"*
- January, 2005  
 The Third Annual Encephale Congress; Paris, France  
**Session Chair: Neuroplasticity - The New Face of Depression**  
*"Neurobiology of Depression: Pharmacological implications"*
- March, 2005  
 VA Medical Center Endocrinology Lecture Series; Tampa, Florida  
*"Interactions Among Stress, Memory, Glucocorticoids and Antidepressant  
 Actions on The Brain"*
- June, 2005  
 2005 Workshop on the Neuroendocrinology of Stress; The American  
 Neuroendocrinology Society; San Diego, California

- “Complex Involvement of Glucocorticoids in Stress and Antidepressant Actions on Hippocampal Functioning”*
- November, 2005  
Brain and Mind Institute, Swiss Federal Institute of Technology  
Lausanne, Switzerland  
*“How Does Stress Affect Memory and the Brain?”*
- November, 2005  
Advances in Neuroscience for Medical Innovation: Neuronal Plasticity and Psychiatric Disorders; Nice, France  
**Session Chair: Molecular Mechanisms of Synaptic Plasticity**  
*“Hippocampus –Impact of Stress and Fear on Depression”*
- March, 2006  
14th European Congress of Psychiatry; Nice, France  
*“Preclinical Research on Antidepressants, Stress and Memory”*
- June, 2006  
*First Annual Workshop on Stress, Memory and Brain Plasticity;*  
Genova, Italy; **Conference Organizer**  
*“A Model of How Stress Affects Hippocampal and Amygdala Functioning”*
- June, 2006  
Invited Seminar: Servier Pharmaceuticals; Paris, France  
*“Antidepressants, Stress and Memory”*
- September, 2006  
4<sup>th</sup> International Workshop on Neuroplasticity; Nice, France  
*“Neurobiology of Depression: Pharmacological Implications”*
- November, 2006  
Society for Neuroscience 35th Annual Meeting; Atlanta, Georgia  
Symposium: Stress and neuronal excitability: molecules, receptors, pathology  
*“Complex Involvement of Glutamate and Corticosterone in the Stress-Induced Modulation of LTP and Memory”*
- January, 2007  
The Fourth Annual Encephale Congress; Paris, France  
*“The Antidepressant Tianeptine Completely Blocks the Effects of Stress on Synaptic Plasticity, Memory, and Anxiety in Rats”*
- May, 2007  
VA Medical Center Endocrinology Lecture Series; Tampa, Florida  
*“Glucocorticoids and PTSD in Rats and People”*
- June, 2007  
*Second Annual Workshop on Stress, Memory and Brain Plasticity;*  
Amsterdam, Netherlands; **Conference Organizer**  
*“Understanding how the Amygdala, Hippocampus and Prefrontal Cortex Process Traumatic Memories”*
- June, 2007  
TopSchool European Honors Student Workshop; University of Amsterdam and Leiden University  
*“A New Perspective on the Role of the Hippocampus in Traumatic Memory Formation”*

- June, 2007  
6th Dutch Endo-Neuro-Psycho Meeting , Doorwerth, Netherlands  
*“Insight into the Neurobiology of Traumatic Memories from Predator Stressed Rats ”*
- August, 2007  
Second International Congress on Stress Research; Budapest, Hungary  
*“Predator Stress, Memory and Brain Plasticity”*
- February, 2008  
NOVA University, Ft. Lauderdale, Florida; Symposium on the “Plastic Brain”  
*“Neurobiological Basis of the Complex Effects of Stress on Memory”*
- April, 2008  
Department of Psychology and Neuroscience Program,  
University of Colorado, Boulder, Colorado  
*“A New Perspective on the Role of the Hippocampus in Traumatic Memory Formation”*
- May, 2008  
University of Wisconsin Medical School, Neuroscience Department  
Guest Lectures on the Neurobiology of Emotion and Memory
- May, 2008  
VA Medical Center Endocrinology Lecture Series; Tampa, Florida  
*“Animal Model of PTSD”*
- July, 2008  
Third Annual Workshop on the Stress, Memory and Brain Plasticity,  
Villars-sur-Ollon, Switzerland; **Conference Organizer**  
*“Neurobiology of Emotional Memory”*
- July, 2008  
The Learning-Brain Expo; Orlando, Florida  
*“How Can Stress Make Such Powerful Memories and Also Make us Forgetful?”*
- September, 2008  
Annual Meeting of the Pavlovian Society, Weehawken, New Jersey  
*“Brain Mechanisms Involved in Neoclassical Fear Conditioning”*
- October, 2008  
AAAS Philip Hauge Abelson Advancing Science Seminar on "Science, Stress, and Human Health, “*From the African Savannas to the Bench and into the Clinic: Translational Research in the Study and Treatment of Emotional Trauma”*, Washington, D.C.
- April, 2009  
Fourth Annual Conference on the Amygdala, Stress, and PTSD; Bethesda, Maryland; *“Involvement of the Hippocampus and Amygdala in Traumatic Memories”*
- July, 2009  
The Learning-Brain Expo; Orlando, Florida  
*“Connecting the Neurobiology of Stress With Real World Experiences”*
- October, 2009  
Fourth Annual Workshop on the Stress, Memory and Brain Plasticity,  
Chicago, Illinois; **Conference Organizer**  
*“Amygdala-Hippocampus Interactions in Emotional Memory”*

October, 2009

7th International Workshop on Neuroplasticity; Nice, France  
“*Neurobiology of depression: pharmacological implications*”

August, 2010

American Psychological Association: 118<sup>th</sup> Annual Convention;  
San Diego, California

“Predator Exposure and social instability as an animal model of PTSD”

### **Subset of Research and University Activity Presented in the Media**

November 16, 1997

**Orlando Sentinel**

“*Study finds rats forget when subjected to stress*”

November 26 – December 10, 1997

**National Public Radio, WUSF-FM**

*Stress-Memory Research Discussed on “All Things Considered”*

December 15, 1997

**Miami Herald**

“*Extreme stress inhibits brain’s ability to recall*”

Spring, 1999

**Texas Wesleyan Law Review**

Research cited in:

“*The unfortunate faith: A solution to the unwarranted reliance upon eyewitness testimony*”, by William David Gross, 5 Tex. Wesleyan Rev., 307.

August 28, 2000

**Tampa Tribune**

“*Grant Boosts Alzheimer’s Research*”

December 21, 2000

**Los Angeles Times**

“*Two Studies Give Hope for Vaccine Against Alzheimer’s*”

**Washington Post**

“*A Vaccine for Memory Loss*”

**Tampa Tribune**

“*USF Role In Alzheimer’s Work Grows*”

December 22, 2000

**Tampa Tribune (Editorial)**

“*USF’s Quest For Alzheimer’s Vaccine*”

April 17, 2001

**Reuters Health On-Line**

“*Stress impairs ability to remember and learn*”

April, 2001

**News & Comment: Trends in Neurosciences (24:199, 2001)**

“*Alzheimer’s Disease:  $\beta$ -amyloid hypothesis strengthened*”

April 24, 2001

**Tampa Tribune**

“*Researcher Links Stress and Memory*”

- May 8, 2001  
**Washington Post**  
*“Medical Frontiers: Promising Vaccine Targets Ravager of Minds”*
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- April 15, 2003  
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**St. Petersburg Times**  
*On Campus Syllabus Watch: Scientific Racism, University of South Florida*
- May, 2004  
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- November, 2004  
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*Good Dads Leaving Kids In Cars: What’s causing dads to forget the kids they love?*
- November 29, 2004  
**USF Oracle Newspaper**  
*Get over stress, not overstressed*

October 19, 2006

*Psychological stress produces PTSD-like symptoms in rats*

**USF News**

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<http://www.vawatchdog.org/old%20newsflashes%20OCT%202006/newsflash10-18-2006-3.htm>

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<http://www.bio-medicine.org/medicine-news/Stress-Produces-PTSD-like-Symptoms-in-Rats-15112-2/>

October 24, 2006

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A child's death in a vehicle: Unthinkable, yet so real

November, 2006

**Bradenton Herald**

Surviving troubles without some pill

January, 2007

**USF Magazine**

Discovery: High Anxiety

February, 2007

**The Franklin Institute On-Line**

How Your Brain Responds to Stress

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Breaking the Myth that Stress Boosts Performance

July, 2007

**Sentences vary when kids die in hot cars**

Yahoo News:

[http://news.yahoo.com/s/ap/20070728/ap\\_on\\_re\\_us/left\\_to\\_die](http://news.yahoo.com/s/ap/20070728/ap_on_re_us/left_to_die)

Fox News:

<http://www.foxnews.com/wires/2007Jul29/0,4670,LefttoDie,00.html>

January, 2008

**Washington Post**

A Flash of Brilliance

<http://thewashingtonpost.newspaperdirect.com/epaper/viewer.aspx>

Winter, 2007

**USF Magazine: High Anxiety**

January, 2008

**The Hook: COVER-** The perfect storm: Family tragedy plays out in court

<http://www.readthehook.com/stories/2008/01/31/COVER-balfourtrial-REFEED-D.rtf.aspx>

August, 2008

**Cincinnati Enquirer Editorial:** "We must remember: Forgetting a baby's not an impossible lapse"

<http://news.cincinnati.com/apps/pbcs.dll/article?AID=/20080822/EDIT01/808220365/1019/EDIT>

September, 2008

**L.A. Times:** Fear, stress among the poor hinder learning

<http://www.latimes.com/features/health/la-he-poverty1-2008sep01,0,3159674.story>

October, 2008

**USF Oracle** - USF researchers closer to finding a cure for PTSD

[http://www.usforacle.com/usf\\_researchers\\_closer\\_to\\_finding\\_a\\_cure\\_for\\_ptsd](http://www.usforacle.com/usf_researchers_closer_to_finding_a_cure_for_ptsd)

<http://hscweb3.hsc.usf.edu/health/now/?p=2164>

**EurekaAlert:** Top researchers to explore stress and anxiety, trauma, poverty and addiction

[http://www.eurekaalert.org/pub\\_releases/2008-10/aaft-trt101508.php](http://www.eurekaalert.org/pub_releases/2008-10/aaft-trt101508.php)

<http://www.zampbioworld.org/bionews/index.php/2008/10/16/9074>

**AAAS: Science, Stress, and Human Health**

<http://www.aaas.org/programs/centers/pe/abelson/>

March, 2009

**Washington Post:** Fatal Distraction

[http://www.washingtonpost.com/wp-dyn/content/article/2009/02/27/AR2009022701549\\_pf.html](http://www.washingtonpost.com/wp-dyn/content/article/2009/02/27/AR2009022701549_pf.html)

September, 2009

**Psychology professor says forgetting kids is not negligence**

**Dad faces jail in hot-car tragedy**

<http://www.chron.com/disp/story.mpl/hotstories/6627317.html>

<http://www.chron.com/disp/story.mpl/hotstories/6627317.html>

October, 2009

**USF News: “American Diet” v. Atkins Diet**

<http://www2.tbo.com/content/2009/nov/02/020024/na-feeding-on-stress/>

**e! Science: “American Diet” v. Atkins Diet**

<http://esciencenews.com/sources/physorg/2009/10/19/american.diet.v.atkins.diet>

October, 2009

**Day care operator to stand trial**

<http://www.msnbc.msn.com/id/33322784>

December, 2009

**Sugar, Fat and Physical Therapy: Can diet affect physical therapy outcomes?**

<http://physicaltherapydiagnosis.blogspot.com/2009/12/sugar-fat-and-physical-therapy.html>

## Research Support (direct costs)

### Previous Support

- 1990 - 1994 **Principal Investigator**, Veterans Affairs Merit Review Award,  
“*Etiology of the Stress-Induced Inhibition of Hippocampal Plasticity*”;  
\$230,774
- 1991 - 1994 **Principal Investigator**, Office of Naval Research,  
“*Analysis of the Inverted-U Relationship Between Corticosterone and  
Hippocampal Plasticity*”; \$343,704
- 1994 - 1997 **Principal Investigator**, Veterans Affairs Merit Review Award  
“*Neurobiology of Stress Effects on the Hippocampus*”; \$274,632
- 1994 - 1997 **Principal Investigator**, Office of Naval Research,  
“*Corticosteroid Effects on Hippocampal Function*”; \$315,804
- 1996 - 1997 **Principal Investigator**, Office of Naval Research,  
“*Antagonism of Stress Effects on the Hippocampus by DHEA*”; \$12,600
- 1997 - 2000 **Principal Investigator**, Veterans Affairs Merit Review Award,  
“*Long-term Effects of Stress on Memory and Hippocampal Function*”;  
\$448,962
- 2000 – 2005 **Principal Investigator**, Veterans Affairs Merit Review Award,  
“*Neuroendocrine Basis of Stress Effects on Memory and Brain Plasticity*”  
\$1,206,500
- 2002 – 2003 **Principal Investigator**, Servier Pharmaceuticals, France  
“*Effects of Tianeptine on the Stress-Induced Suppression of Hippocampal  
Function*”, \$68,000
- 2000 – 2005 **Co-Investigator**, National Institutes of Aging  
“*Functional Consequences of Vaccination in AD Tg Mice*” \$2,212,500
- 2002 – 2008 **Co-Investigator**, National Institutes of Mental Health  
“*Significance of Stress-Induced Hippocampal Atrophy*” \$750,000
- 2004 – 2008 **Principal Investigator**, Servier Pharmaceuticals, France  
“*AMPA Receptor Modulator and Amyloid Accumulation in an Animal Model  
of Alzheimer’s Disease*”; \$68,500
- 2005 – 2008 **Principal Investigator**, Servier Pharmaceuticals, France  
“*Influence of S 24795, a nicotinic modulator, on memory performance and  
accumulation of  $\beta$ -Amyloid in APP+PS1 transgenic mice*”; \$158,000
- 2005 – 2009 **Principal Investigator**, Veterans Affairs Merit Review Award,  
“*Effects of Stress on Memory: Brain Circuits, Mechanisms and Therapeutics*”  
\$625,000
- 2007 – 2008 **Principal Investigator**, Allergan  
“*Effects of Cognitive Enhancing Agents on Spatial Memory*”; \$35,000
- 2005 – 2009 **Principal Investigator**, Servier Pharmaceuticals, France  
“*Influence of Agomelatine on memory and brain plasticity*”; \$71,000
- 2008 – 2009 **Mentor**, Veterans Affairs Research Fellowship  
“*Cranial Electrical Stimulation as a Treatment for Combat-Related PTSD: A  
Double-Blind, Randomized, Controlled Trial*”; \$4,000

## Current Support

2008 – 2010 **Principal Investigator**, Allergan

“*Pharmacological Reversal of Stress-Induced Sequelae*”; \$77,000

2009 – 2013 **Principal Investigator**, Veterans Affairs Merit Review Award,

“*Neural Mechanisms and Therapeutics in Animal Model of PTSD*”; \$600,000

## Publications

1. Rose, G., **Diamond, D.M.** and Lynch, G. (1983) Dentate granule cells in the rat hippocampal formation have the behavioral characteristics of theta neurons. *Brain Research*, 266:29-37.
2. Weinberger, N.M., Hopkins, W. and **Diamond, D.M.** (1984) Physiological plasticity of single neurons in auditory cortex of the cat during acquisition of the pupillary dilation conditioned response: I. Primary field (AI). *Behavioral Neuroscience*, 98:171-188.
3. **Diamond, D.M.** and Weinberger, N.M. (1984) Physiological plasticity of single neurons in auditory cortex of the cat during acquisition of the pupillary dilation conditioned response: II. Secondary field (AII). *Behavioral Neuroscience*, 98:189-210.
4. Weinberger, N.M., **Diamond, D.M.** and McKenna, T.M. (1984) Initial events in conditioning: Plasticity in the pupillomotor and auditory systems. In: *Neurobiology of Learning and Memory*, eds., G. Lynch, J.L. McGaugh, N.M. Weinberger, The Guilford Press, NY.
5. **Diamond, D.M.** and Weinberger, N.M. (1986) Classical conditioning rapidly induces specific changes in frequency receptive fields of single neurons in secondary and ventral ectosylvian auditory cortical fields. *Brain Research*, 372:357-360.
6. Weinberger, N.M. and **Diamond, D.M.** (1987) Physiological plasticity of single neurons in auditory cortex: Rapid induction by learning. *Progress in Neurobiology*, 27:1-55.
7. **Diamond, D.M.**, Dunwiddie, T.V. and Rose, G.M. (1988) Characteristics of hippocampal primed burst potentiation *in vitro* and in the awake rat. *Journal of Neuroscience*, 8:4079-4088.
8. Rose, G.M., **Diamond, D.M.**, Pang K. and T.V. Dunwiddie (1988) Primed burst potentiation: Lasting synaptic plasticity invoked by physiologically patterned stimulation. In: *Synaptic Plasticity in the Hippocampus*, eds., H.L. Haas and G. Buzsaki, Springer-Verlag, Berlin, pp. 96-98.
9. Weinberger, N.M. and **Diamond, D.M.** (1988) Dynamic modulation of the auditory system by associative learning. In: *Auditory Function: The Neurobiological Bases of Hearing*, eds., G.M. Edelman, W.E. Gall and W.M. Cowan, John Wiley and Sons, New York, pp. 485-512.
10. McKenna, T.M., Weinberger, N.M. and **Diamond, D.M.** (1989) Responses of single auditory cortical neurons to tone sequences. *Brain Research*, 481:142-153.
11. **Diamond, D.M.** and Weinberger, N.M. (1989) The role of context in the expression of learning-induced plasticity of single neurons in auditory cortex. *Behavioral Neuroscience*, 103:471-494.

12. **Diamond, D.M.**, Bennett, M.C. and Rose, G.M. (1989) Adrenalectomy reduces the threshold for hippocampal primed burst potentiation in the anesthetized rat. *Brain Research*, 492:356-360.
13. Weinberger, N.M., Ashe, J., Metherate, R., McKenna, T.M., **Diamond, D.M.** and Bakin, J. (1990) Retuning auditory cortex by learning: A preliminary model. *Concepts in Neuroscience*, 1:91-132.
14. Engstrom, D.A., Bennett, M.C., Stevens, K.E., Wilson, R.L., **Diamond, D.M.**, Fleshner, M. and Rose, G.M. (1990) Differential sensitivity of hippocampal primed burst potentiation to anesthetics, *Brain Research*, 521:148-152.
15. **Diamond, D.M.**, Bennett, M.C., Stevens, K.E., Wilson, R.L. and Rose, G.M. (1990) Exposure to a novel environment interferes with the induction of hippocampal primed burst potentiation in behaving rats, *Psychobiology*, 18:273-281.
16. Weinberger, N.M., Metherate, R., Ashe, J., McKenna, T., **Diamond, D.M.** and Cassady, J.M. (1991) Neural adaptive information processing: A preliminary model of receptive field plasticity in auditory cortex during Pavlovian conditioning. In: *Neurocomputation and Learning: Foundations of Adaptive Networks*, eds. M. Gabriel and J. Moore, Bradford Books, pp. 91-138.
17. **Diamond, D.M.**, Bennett, M.C., Fleshner, M. and Rose, G.M. (1991) Modulation of hippocampal primed burst potentiation by stress and corticosterone. In: *Peripheral Signaling of the Brain: Role in Neural-Immune Interactions and Cognitive Function*, eds. R.C.A. Fredrickson, D.L. Felton and J.L. McGaugh, Hogrefe & Huber, Toronto, pp. 503-508.
18. Bennett, M.C., **Diamond, D.M.**, Fleshner, M. and Rose, G.M. (1991) The level of serum corticosterone predicts the magnitude of hippocampal primed burst potentiation and depression in the urethane-anesthetized rat, *Psychobiology*, 19:301-307.
19. Bennett, M.C., **Diamond, D.M.**, Stryker, S.L., Parks, J.K. and Parker, Jr., W.P. (1992) Cytochrome oxidase inhibition: A novel animal model of Alzheimer's disease, *The Journal of Geriatric Psychiatry and Neurology*, 5:93-101.
20. **Diamond, D.M.**, Bennett, M.C., Fleshner, M. and Rose, G.M. (1992) Inverted-U relationship between the level of peripheral corticosterone and the magnitude of hippocampal primed burst potentiation, *Hippocampus*, 2:421-430.
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22. **Diamond, D.M.**, Fleshner, M. and Rose, G.M. (1994) Psychological stress repeatedly blocks hippocampal primed burst potentiation in the behaving rat, *Behavioural Brain Research*, 62:1-9.
23. **Diamond, D.M.** and Rose, G.M. (1994) Does associative LTP underlie classical conditioning?, *Psychobiology*, 22:263-269.
24. **Diamond, D.M.** and Rose, G.M. (1994) Stress impairs LTP and hippocampal-dependent memory. *Annals of the New York Academy of Sciences: Brain Corticosteroid Receptors: Studies on the Mechanism, Function and Neurotoxicity of Corticosteroid Action*, 746:411-414.
25. Meaney, M.J., Bodnoff, S.R., O'Donnell, D., Nair, N.P.V., **Diamond, D.M.**, Rose, G.M., Poirier, J. and Seckl, J. (1994) Glucocorticoids as modulators of neuron

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26. Bodnoff, S.R., Humphreys, A.G., Lehman, J.C., **Diamond, D.M.**, Rose G.M. and Meaney, M.J. (1995) Enduring effects of chronic corticosterone treatment on spatial learning, synaptic plasticity and hippocampal neuropathology in young and mid-aged rats, *Journal of Neuroscience*, 15:61-69.
  27. **Diamond, D.M.** and Branch, B. (1995) Effects of dehydroepiandrosterone sulfate (DHEAS) and stress on hippocampal electrophysiological plasticity, *Annals of the New York Academy of Sciences: Dehydroepiandrosterone (DHEA) and Aging*, 774:304-307.
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  29. **Diamond, D.M.**, Ingersoll, N., Fleshner, M. and Rose, G.M. (1996) Psychological stress impairs spatial working memory: Relevance to electrophysiological studies of hippocampal function, *Behavioral Neuroscience*, 110: 661-672.
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  33. **Diamond, D.M.**, Fleshner, M. and Rose, G.M. (1999) The DHEAS-induced enhancement of hippocampal primed burst potentiation is blocked by psychological stress, *Stress: The International Journal on the Biology of Stress*, 3:107-121.
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- Concepts of Long-Term Potentiation and Beyond*, Ed., C. Holscher, Cambridge University Press, pp. 379 – 404.
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  45. Kim, J.J. and **Diamond, D.M.** (2002) The stressed hippocampus, synaptic plasticity and lost memories. *Nature Reviews - Neuroscience*, 3:453-462.
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  66. Zoladz, P.R., Campbell, A.M., Park, C.R., Schaefer, D., Danysz, W. and **Diamond, D.M.** (2006) Enhancement of long-term spatial memory in adult rats by the uncompetitive NMDA receptor antagonists, memantine and neramexane. *Pharmacology, Biochemistry and Behavior*, 85:296-305.
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## Manuscripts In Preparation

- Zoladz, P.R. and **Diamond, D.M.** A search for clarity in the confusing literature on the neurobiology and neuroendocrinology of post-traumatic stress disorder (PTSD).
- Diamond, D.M.** and Zoladz, P.R. The neurobiology of inadvertent manslaughter involving stress-induced memory loss and inattention blindness: A case study.
- Park, C.R. and **Diamond, D.M.** When two negatives make a positive: Administration of either psychological stress or an NMDA receptor antagonist impairs spatial memory retrieval, but when administered together, memory is preserved.

## Subset of Abstracts of Conference Presentations

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