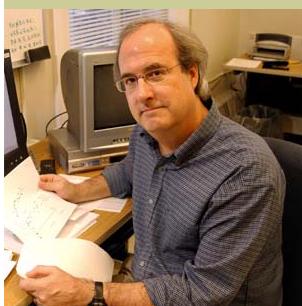




Division 6, American  
Psychological Association

Editor  
David J. Bucci, PhD  
Dartmouth College



**Mark Bouton, PhD**  
**Division 6 President**

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# The Behavioral Neuroscientist and Comparative Psychologist

Volume 25, Issue 1

Spring/Summer, 2010

## A Message From the President: Multidisciplinary Interest in Extinction Learning

**Mark E. Bouton**

Previous Presidents of Division 6 have used this space to provide fairly personal perspectives on issues that are relevant to the division. Given this tradition, and given the perennial question about how well (or whether) the interests of Division 6 still fit within an organization as broad as the American Psychological Association, I thought I would summarize how one research program has benefited from contact with a broad range of psychological science.

### *Extinction, learning theory, and clinical science*

For about three decades, my students and I have been investigating extinction, the phenomenon in which behavior acquired through either Pavlovian or instrumental conditioning goes away when the unconditional stimulus or reinforcer is removed. My interest in extinction began in the 1970s while I was a graduate student with Robert Bolles, who had a very functional perspective on learning. Learning allows an animal to adapt to the environment within its own lifetime; extinction allows acquired behavior to adapt even further to a change in conditions. Despite extinction's obvious importance, exciting theories that were coming out in the 1970s (e.g., the Rescorla-Wagner model) did not seem to explain it quite right, because they implied that it resulted from unlearning.

Since the 1970s and 1980s, results of behavioral research in my lab (and in other labs, including Robert Rescorla's) have instead supported Pavlov's original idea that extinction does not reflect an erasure of the original learning. We have run many experiments investigating phenomena which demonstrate that the original behavior can return to performance even after fairly extensive extinction treatments (e.g., reinstatement, renewal, spontaneous recovery, and rapid reacquisition). To be more specific about two of them, in spontaneous recovery, extinguished behavior can return when time elapses after extinction. In the renewal effect (Bouton & Bolles, 1979), responding can return when the context is changed after extinction. Such phenomena indicate that the loss of behavior that occurs in ex-

tinguishment does not reflect destruction of the original learning, and that performance after extinction depends at least partly on the context. I argued that extinction gives the Pavlovian CS or operant behavior a new, second meaning, and thus creates a kind of ambiguity. The context becomes important in determining the current meaning, much as a verbal context disambiguates an ambiguous word. Reinstatement, renewal, reacquisition, and spontaneous recovery can all be interpreted as context effects.

On the way home from a colloquium I gave at another university in the mid 1980s, I began thinking that although I enjoyed talking shop with the learning theorists in my typical colloquium audience, our work had a wider message. I began to think more about the relevance of basic extinction research to clinical problems in the real world—the behavior of humans in the wild. These early ideas resulted in a paper I published in *Behaviour Research and Therapy* in 1988. In it, I discussed recent basic research on extinction, emphasized the crucial role of context in it, and tentatively proposed that it was all relevant to exposure therapy (a feature of cognitive behavioral therapy that is theoretically linked to extinction) and *relapse* that can occur after it. The message was that extinction isn't unlearning; it instead produces a suppression of behavior that can relapse with any of several context manipulations. I also suggested that time is part of the context (spontaneous recovery is the renewal effect that happens when one changes the temporal context). These points have been embellished and expanded in a number of additional papers my students and I have since written for clinical audiences.

The basic argument now seems accepted by many clinical scientists (e.g., Craske et al., 2008), and there is a small but growing number of studies that report renewal effects in anxious participants and moderate drinkers who have been subjected to context shifts (continued on page 4)

## Division Officers & Committees 2009-2010

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## Division 6 Officers

**Secretary-Treasurer, Mary Cain** is an Associate Professor in the Psychology Department at Kansas State University. She completed her graduate training with Bruce Kapp, PhD. at the University of Vermont and her post-doctoral training with Mike Bardo, Ph.D. at the University of Kentucky. She studies how individual differences in response to novelty and environmental enrichment affect Pavlovian conditioning and the response to drugs of abuse.



**Membership & Growth Chair, Jonathon Crystal** is a Professor in the Neuroscience and Behavior Program at the University of Georgia. His research focuses on animal models of cognition, including episodic memory, metacognition, and time perception.



**Program Committee Chair, Jeansok Kim** is currently a Professor in the Department of Psychology and Program in Neurobiology and Behavior at the University of Washington. His research focuses on neurocognitive effects of stress as studied through fear and eyeblink conditioning;



**Division Historian, Gary Greenberg** is Professor Emeritus at Wichita State University where he taught for over 40 years. While "retired" he is teaching at University of Illinois - Chicago and working on a book with Richard Lerner of Tufts, "The heredity hoax." <http://webs.wichita.edu/?u=psychology&p=/people/faculty/greenberg/>



**Newsletter Editor/Web Manger, David Bucci** is an Associate Professor in the Psychological and Brain Sciences Department at Dartmouth College. His research focuses on neural substrates of classical conditioning and interactions between attention, learning, and memory.



**Student Representative, Drina Vurbic** is a 3rd year grad student and is interested in exploring learning and memory with a translational perspective. In Mark Bouton's lab, she has continued on the path she began as an undergraduate working with Brian Thomas at Baldwin-Wallace College. Her current work investigates processes of Pavlovian conditioning and extinction that play a significant role the development and treatment of psychological disorders. She is thrilled to serve as Student Rep and have the opportunity to engage student members in furthering the mission of APA.



**Fellows Chair, Mark Stanton** is a Professor of Psychology at the University of Delaware and interested in the developmental psychobiology of learning and memory and its applications to developmental neurobehavioral disorders.



**Awards Chair, Cody Brooks** began his education in psychology at Gettysburg College, where he became interested in competing learning theories, Pavlov, the hippocampus, and flavor aversion. He went on to earn his Ph.D. with Mark Bouton at UVM. After a subsequent 4-year stop at Fresno State, he is in his tenth year at Denison University. Cody continues to work on animal models of relapse, with mainly Pavlovian conditioning methods, and doing a lot of teaching. He was recently elected an APA Fellow.



**Member-at-Large, Mary Meagher** is a Professor of Psychology and Cornerstone Faculty Fellow at Texas A & M University. Her research focuses on the role of stress and emotion in health, with an emphasis on pain and immune-related diseases.



## Spotlight on Division 6 Fellows

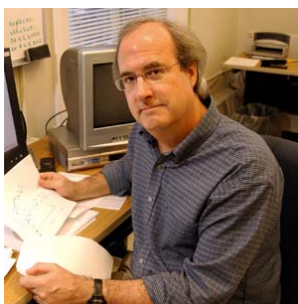
### **Julio Ramirez, PhD** Department of Psychology Davidson College

Julio Ramirez is the R. Stuart Dickson Professor of Psychology and Director of the Neuroscience Program at Davidson College. Numerous Davidson students have coauthored presentations and papers with him in national and international conferences and journals. He and his students at Davidson College investigate recovery of function after central nervous system injury, with an emphasis on Alzheimer's disease and the functional significance of hippocampal neuroplasticity. His research has been supported by the National Institutes of Health, the National Science Foundation, and the Howard Hughes Medical Institute. The Council for Advancement and Support of Education, Washington, D. C., in 1989 recognized his contributions to undergraduate science education when he was named the North Carolina Professor of the Year and a national Gold Medal Professor of the Year. He has won awards from the Faculty for Undergraduate Neuroscience and the Council on Undergraduate Research for his contributions to undergraduate science education and research. Most recently, the National Science Foundation gave him the 2004 Director's Award for Distinguished Teaching Scholars. He directs a national mentoring program known as SOMAS, which promotes the development of mentoring and research skills of junior neuroscience faculty from predominantly undergraduate institutions across the United States. He was the Founding President of Faculty for Undergraduate Neuroscience and was the Founding Senior Editor of the *Journal of Undergraduate Neuroscience Education*. He obtained his Ph.D. in Psychology from Clark University in 1983 and subsequently did postdoctoral work at the Massachusetts Institute of Technology.





## Multidisciplinary Interest in Extinction Learning (continued from page 1)



after exposure therapy. Other conditioning experiments with human participants have demonstrated renewal, reinstatement, and spontaneous recovery effects. The results begin to confirm a role for context after extinction in humans that is not unlike the one we have worked out in detail for rats. It took effort to spell out the clinical meaning of our laboratory findings at first. But nowadays, my students and I almost naturally think about the practical implications of even our most theoretically-oriented experiments. The link between extinction, therapy, and relapse has generated new ideas that have helped invigorate our basic program of research.

### **The input from neuroscience**

Beginning in the mid 1990s, investigators who were invested in the neuroscience of learning, especially fear learning, began to show an interest in extinction and its implications for the inhibition of fear. There are now a number of excellent laboratories (e.g., those of Mike Davis, Joe LeDoux, and Gregory Quirk), and much other research, that pursue the brain mechanisms of extinction. The study of fear extinction has thus become a biobehavioral (as opposed to purely behavioral) research effort. More recently, behavioral pharmacology labs (e.g., those of Yavin Shaham, Patricia Janak, and Gavin McNally) have also begun to examine renewal effects in animals reinforced for lever pressing with drugs of abuse (e.g., heroin, cocaine, ethanol). When extinction occurs in a context different from the one in which drug-seeking has been learned, a return to the original context renews performance and leads the rat to seek the drug again. It seems that little of this work would have been possible without the purely behavioral experiments and theory that preceded it. And the connection between behavioral and neural science was inspired, at least in part, by their common connection with therapy and relapse. There is now a kind of three-way convergence of learning theory, neuroscience, and clinical science in progress.

Some exciting new insights have emerged from the triple threat. For one, the idea that extinction is new learning suggests that it might depend on brain processes like those implicated in other forms of learning. This led Mike Davis and his co-workers to study the effects of D-cycloserine (DCS), a partial agonist of the NMDA receptor involved in long-term poten-

tiation (a form of synaptic facilitation linked to learning), on extinction. They showed, first in rats undergoing fear extinction and then in humans undergoing exposure therapy, that administration of DCS could reduce the amount of training (i.e., number of extinction trials or number of exposure sessions) it takes to produce a positive behavioral outcome. This result has now been picked up by many clinical scientists and the popular media. Interestingly, there is a (familiar) temptation to think we've uncovered a new way of erasing the original learning. However, it is safest to start with the assumption that the drug mainly facilitates ordinary extinction learning. Consistent with this possibility, my students and I have shown that DCS can make extinction learning quicker, but not necessarily less context-specific, than ordinary extinction: DCS does not weaken the renewal effect (Woods & Bouton, 2006; Bouton, Vurbic, & Woods, 2008). Basic behavioral methods and theory still help interpret neuroscience- and clinically-inspired findings.

Other behavioral insights have been stimulated by the neuroscience connection. For example, research on long-term potentiation (LTP) suggests that "depotentiation" at the level of the synapse might occur if low-frequency stimulation follows LTP induction right away. In a set of behavioral experiments, Myers, Ressler, and Davis (2006) reported that extinction conducted soon (e.g., 10 mins) after a single fear-conditioning session might also depotentiate the original learning (it created a form of extinction that seemed immune from renewal, reinstatement, or spontaneous recovery). Unfortunately, work in my lab on immediate extinction suggests that, if anything, it might actually cause a less durable form of extinction learning (e.g., Woods & Bouton, 2008). Compatible results have been reported by the laboratories of Stephen Maren and Joe LeDoux. Thus, any facilitating effect of immediate extinction appears to have significant boundary conditions. A more recent insight has been based on the "reconsolidation" phenomenon, in which the reactivation of a fear memory appears to make it temporarily vulnerable to disruption via substances like protein synthesis inhibitors (Nader, Schafe, & LeDoux, 2000). Working in LeDoux's lab, Marie Monfils and Daniella Schiller have gone on to find that soon after reactivation, a rapid series of extinction trials can create a form of extinction that



seems immune to effects like renewal, reinstatement, and spontaneous recovery (Monfils et al., 2009; Schiller et al., 2010). This finding has again attracted attention from clinical scientists and the popular media. However, the neural rationale behind it is less clear to me than the rationale behind the DCS and immediate extinction hypotheses. And given the history of these other putative erasure treatments, I am anxious to see the phenomenon replicated and extended in other laboratories.

### **Inputs from comparative psychology and other parts of experimental psychology**

In addition to the convergence of learning theory, clinical science, and neuroscience, there is also input from comparative psychology. For years, David Barlow, an authority on anxiety disorders, has been interested in the relationship between anxiety and panic (or anxiety and fear), which can be dissociated in patients with panic disorder. In the late 1990s, while thinking about panic disorder with Dave and Susan Mineka, I began to appreciate the importance of a "behavior systems" approach to fear and panic learning. As pioneered within learning theory by Michael Fanselow, William Timberlake, and Michael Domjan (all prior presidents of Division 6), the behavior systems approach emphasizes a functional or ethological analysis of how systems of natural behavior are organized to deal with biologically-significant events. Qualitatively-different behaviors are thought to emerge in accordance with how far the organism is (in time and space) from motivationally significant objects (predators, food items, sex opportunities). Cues predicting these things at different intervals should evoke different behaviors that get the organism ready at the corresponding time scale. One of the main ideas behind a paper Sue and Dave and I wrote on panic disorder (Bouton, Mineka, & Barlow, 2001) was that temporally distal cues associated with panic attacks (e.g., a bridge or shopping mall) might evoke anxiety, an anticipatory response that deals with upcoming panic attacks at a temporal distance, while more proximal cues that signal an attack more imminently (e.g., the feel of a pounding heart) should elicit fear or panic responding. (Panic responses might actually cope with an awful event that is already in progress, Bouton, 2005.) Conditioned anxiety evoked by a distal cue can also potentiate panic responses elicited by more proximal cues; this is one reason why panic disorder can develop (anxiety about the next panic attack can exacerbate the panic). Conceptualizing a clinical disorder this way linked it to the broader base of modern learning theory—and a long tradition in ethology.

Interestingly, a distinction between two kinds of aversive emotional states relates once again to the brain. In the 1990s, Mike Davis and his colleagues had begun to dissociate fear (controlled by the amygdala) and anxiety (controlled by the bed nucleus of the stria terminalis, or BNST). Could it be that the conditioning of distal cues, but not more proximal cues, would involve the emotion seemingly controlled by the BNST? The answer appears to be yes; we found that the BNST is important in controlling aversive responses to cues that signaled footshock in 10 minutes, but not 1 minute (Waddell, Morris, & Bouton, 2006). The BNST was also involved in reinstatement, the relapse phenomenon in which

context conditioning triggers fear of an extinguished proximate cue (our contexts were long-duration cues). Our experiments used methods and ideas from neuroscience to help test a behavioral theory. And the behavioral theory led us to a neuroscientific insight. The relationship between learning theory, comparative psychology, neural science, and clinical science thus seems rich and synergistic.

There are further connections between conditioning and extinction and other parts of experimental psychology. The question of whether extinction causes erasure or new learning is directly related to debates among cognitive psychologists about whether memories become overwritten or merely less accessible with experience. There is also a new and overarching interest in the influence of *time*. The behavior systems view emphasizes the organization of behavior in time, as does our contextual view of extinction, which since the 1988 BRAT paper has envisioned time as part of the context (recall that the passage of time creates spontaneous recovery through context change). The connection between time, conditioning, and extinction has led my students and me into some new areas that link associative learning theory with the separate literature on interval timing. This particular theme will be the focus of the presidential address I will give in San Diego this August.

### **So what's the point?**

What is there to conclude from this meandering and personal narrative? I think it demonstrates how separate threads from different areas of psychology can converge and invigorate a (perhaps illustrative) research program. Nowadays, my students and I work in a world where the lines separating learning theory from neuroscience, clinical science, comparative psychology, and other parts of experimental psychology have become very interesting-- and also rather blurred.

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## Division 6 Program – APA. August 12-15, 2010 San Diego, CA

(Times are tentative until final APA central office approval)

**Thursday, August 12, 10-12pm**

### **Symposium "Machine Learning in the Brain: Quo Vadis?"**

Chair: Daeyeol Lee (Yale)

Speakers:

- Nathaniel Daw (NYU) *"Model-Based Reinforcement Learning in Humans: Beyond Reinforcement"*
- Matthew Botvinick (Princeton) *"Hierarchical Reinforcement Learning"*
- Daeyeol Lee (Yale) *"Single-Neuron Studies of Reinforcement Learning and Decision Making"*

**Thursday, August 12, 1-3pm**

### **Symposium "Comparative Psychology of Learning"**

Chair: David Washburn (Georgia State Univ)

- W. David Stahlman and Aaron Blaisdell (UCLA): *"Some Determinants of Behavioral Variability during Learning"*
- Ronald Schusterman and Colleen Reichmuth (UC Santa Cruz): *"Smart Sea Lions, Seals and Walruses"*
- Mauricio Papini (TCU): *"Adjustment to Incentive Downshift: A Comparative Analysis"*
- David Washburn (Georgia State Univ): *"What Can We Learn about Learning from „Failures to Learn“?"*

**Thursday, August 12, 3-5pm**

### **Symposium "Sugar, Sex and Stress: Hormonal Modulation of Memory Processes"**

Chair: Ewan McNay (SUNY Albany)

Speakers:

- Christa McIntyre (Univ Texas, Dallas) *"Stress Effects on Memory and Synapses"*
- Benno Roozendaal (UMC Groningen) *"Stress Hormones, Memory and PTSD"*
- Ewan McNay (Univ Albany) *"Insulin: a Key Modulator of Hippocampal Memory Processes"*
- Donna Korol (Univ Illinois, Urbana-Champaign) *"Viewing the Cognitive Effects of Estrogens Through a Memory Systems Lens"*

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**Friday, August 13, 9-11am**

### **Symposium "Spatial Memory for Fear and Reward"**

Chair: Stefan Leutgeb (UCSD)

Speakers:

- Hugh T. Blair (UCLA) *"Scary Places: Fear, Stress and the Hippocampal Code for Space"*
- Loren M. Frank (UCSF) *"Linking Reward and the Mechanisms of Learning: Reward Promotes the Reactivation of Recent Experience in the Hippocampus"*
- Sheri J. Mizumori (University of Washington) *"Rewarding Places in Space"*

**Friday, August 13, 2-3pm****Hebb award address**

Chair: Mark Bouton (University of Vermont)

- Michela Gallagher (Johns Hopkins University) – “Functional Mechanisms of Memory Impairment in Aging that Bridge from Rats to Man”

**Friday, August 13, 3-5pm****Symposium: “A Dialog with the Hippocampus”**

Chair: Robert E. Clark (UCSD)

Speakers:

- Wendy A. Suzuki (NYU) “*The Representation of Temporal Order Information in the Medial Temporal Lobe*”
- Craig E. L. Stark (UC Irvine) “*Pattern Separation and the Ageing Hippocampus*”
- Jill K. Leutgeb (UCSD) “*The Encoding of New Memories in the Medial Temporal Lobe Circuitry*”
- Elizabeth A. Buffalo (Emory University School of Medicine) “*Neuronal Synchrony in the Medial Temporal Lobe and Memory Formation*”

**Friday, August 13, 5-6 pm****Presidential Address**

Chair: Nancy Dess (Occidental College)

- Mark Bouton (University of Vermont) “*Timing and Associative Learning: Does One Explains the Other?*”

**Friday, August 15, 6-8pm****Executive Committee Meeting****Saturday, August 14, 9-10am****Invited address:**

Chair: Jeansok Kim (University of Washington)

- David Diamond (University of South Florida) “*Predator Exposure and Social Instability as an Animal Model of PTSD*”

**Saturday, August 14, 11-12pm****Invited address:**

Chair: Mark Bouton (University of Vermont)

- Michael S. Fanselow (UCLA) “*The Dynamic Origin of Memory Systems: A Perspective Based on Contextual Fear Conditioning*”

**Saturday, August 14, 1-3pm****Symposium “Recent Advances in the Neurobiology of Associative Learning”**

Chair: Fred Helmstetter (University of Wisconsin)

Speakers:

- June-Seek Choi (Korea Univ) “*In Search for the Extinction Memory Engram: Evidence for Cortico-Amygdala Interaction*”

## Division 6 Program – APA August 12-15, 2010 San Diego, CA (continued)

(Times are tentative until final APA central office approval)

**Saturday, August 14, 1-3pm**

**Symposium “Recent Advances in the Neurobiology of Associative Learning” (continued)**

- John Disterhoft (Northwestern Univ) “Cellular and Systems Substrates of Eyeblick Conditioning”
  - John Freeman (Iowa Univ) “Sensory Inputs to the Cerebellum that are Necessary for Eyeblick Conditioning”
  - Fred Helmstetter (University of Wisconsin) “Molecular Mechanisms of Fear Memory Storage and Retrieval”
- (Co-Listing by Division 1, 3, 21, 24, 25, 26, PsyBeta, PsyChi)

**Saturday, August 14, 3-4pm**

**Business Meeting**

**Saturday, August 14, 7-9pm**

**Social (Jointly with Division 3)**

**Sunday, August 15, 10-12pm**

**Poster session (Jointly with Division 3)**

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**Back Issues of  
*The Behavioral Neuroscientist and Comparative Psychologist*  
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<http://www.apa.org/divisions/div6/newsletter.html>**



**The Behavioral Neuroscientist  
and Comparative Psychologist**

Division 6 – American Psychological Association  
Volume 23 • Number 2 • Summer, 2008



## APA Convention Events of Interest



**Global and Comparative Perspectives on Peace and Conservation**  
**Thursday, Aug 12, Noon-1:50 pm, Convention Ctr Room 33A**

- **Saleem Ali**, University of Vermont  
*The Ecology of Cooperation: Building Peace Through Collective Conservation*
- **Ethel Tobach**, American Museum of Natural History  
*Primate Evolution and Conflict Resolution*
- **Nancy Caine**, CSU San Marcos  
*The Nature and Origins of Cooperation: Lessons from Callitrichid Primates*
- **Discussant: Nancy K. Dess**, Occidental College

Sponsored by  
 APA Division 34

### ADDICTION

Nora Volkow, MD, National Institute on Drug Abuse, Bethesda, MD, "Psychotherapeutic Drug Abuse: It's Not What the Doctor Ordered" (Friday, 11-11:50)

### ATTACHMENT

Stephen Porges, PhD and C. Sue Carter, PhD, University of Illinois at Chicago, "The Love Code: Social Engagement and Social Bonding" (Friday, 1-1:50)

Stephen J. Suomi, PhD, National Institute of Child Health and Human Development, Bethesda, MD, "Risk, Resilience and Gene-Environment Interplay in Primates" (Friday, 12-12:50)

### VIOLENCE

Discussion: "Human and Hamster Bullies: Origins of Adolescent Aggression" with Nicki Crick, PhD and Yvon Delville, PhD (Saturday, 2-3:50)

### MEMORY AND CONSCIOUSNESS

Daniel L. Schacter, PhD, Harvard University, "The Future of Memory: Imagining, Remembering, and the Brain" (Friday, 10-10:50)

### TRANSLATIONAL NEUROSCIENCE

V.S. Ramachandran, MD, PhD, University of California-San Diego (Friday, 11-11:50)

Richard J. Davidson, PhD, University of Wisconsin, "Change Your Brain by Transforming Your Mind" (Friday, 10-10:50)

Janice Kiecolt-Glaser, PhD, Ohio State University, "How Stress Kills: Assessing the Damage and Various Remedies" (Saturday, 3-3:50)

***IN LOVING MEMORY OF SGT. PETER ZAKUTANSKY***  
**(March 18, 1921-March 1, 2010)**  
**Night Flyer, WWII US Army Pigeoneer**

***By Al Croseri***

Pete was born on March 18, 1921 in Old Road, Elizabeth, New Jersey. His love affair with the homing pigeons began at an early age. At 10 years of age, he started his own loft. At 12 years of age, he began training pigeons to fly at night. Soon thereafter, he learned and proved that his pigeons would fly both during the night and the day. He raced his pigeons with the Greater Elizabeth Racing Pigeon Club, winning many long and short distance races.

Pete enlisted in the US Army in 1942 and served as an armed guard in the Pentagon, Washington, D.C., for the Office of Secret Mail. He was trained to fire 155 howitzers and a 30 calibre 4-man machine gunner. After describing his "night and day" flying training methods with Major Mc Clure at the Pentagon, Pete was promoted to the rank of sergeant with the 285th Signal Corps along with a special assignment to train pigeons for night flying at Fort Bragg, North Carolina. After basic training at Fort Bragg, he was given his own jeep, a helper and his own location for the night loft. The night loft was located on top of a hill, a quarter of a mile away from the main pigeon section. Pete increased pigeon night flight ranges from the previous maximum of 55 miles to 163 miles. His Army Pigeons, broke the night flying record by an incredible distance of 108 miles. To this day, 68 years later, Sgt. Zakutansky still holds the Night Flying Record.

In 1943, Pete was sent to England with a six-man detachment and oversaw "pigeon communications" between three airbases in Exeter, England. Their detachment was attached to the 9th Air Force Paratroop Carriers. C-47s were used for the missions.

17 paratroopers would eject from the plane, and Pete would wrap the ripcords around his hand, lean out the door and release the pigeon. He personally flew on 15 missions, with the 82nd and 101st Airborne Divisions on C-47s during maneuvers to release his pigeons. He was then transferred to a pigeon training area in Andover, England where they raised young pigeons and trained them to a mobile loft, P.G. 68, a 30 bird loft on a trailer.

Pete was a very dear friend and will be greatly missed. He was kind, generous and a man of integrity. He loved to talk about his theory on pigeons, the war years, his family, and especially his beloved Mom.

I am honored to announce that the late Sgt. Peter Zakutansky is co-starring in *The Pigeoneers II* with Lt. Col. Robert S. De Adder. The film was shot on location at Fort Monmouth, New Jersey and will be released in 2010.

To view Pete's entire tribute, please visit The Pigeoneers page on the website: [www.pigeonsincombat.com](http://www.pigeonsincombat.com) or please click here and scroll down: [www.pigeonsincombat.com/the pigeoneerswebpage.html](http://www.pigeonsincombat.com/the pigeoneerswebpage.html).

Kind regards,

Al Croseri  
[www.pigeonsincombat.com](http://www.pigeonsincombat.com)

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### Division 6 LISTSERV

Division 6 maintains an email reflector to keep members up to date with the latest information on research funding, employment opportunities, and other items of general interest. If you have recently changed your email address, you may need to re-subscribe to the reflector. To update your current address or to join the list for the first time, follow these simple instructions:

Send precisely the following 4-word message:

#### **SUBscribe div6 John Doe**

Change John Doe to your first and last name; the system will find the subscriber's email address in the message automatically. Put nothing else in the message. Mail the 4-word message to the following address:

[listserv@lists.apa.org](mailto:listserv@lists.apa.org)

See <http://listserv.apa.org> for more information

**The Behavioral Neuroscientist and Comparative Psychologist** is the official newsletter of APA Division 6 — *Behavioral Neuroscience and Comparative Psychology* — and is published 3 times a year. Mailing addresses used are those appearing on the official APA roster and a separate Division roster. Corrections and changes of address should be sent directly to the APA Directory Office, 1400 North Uhle St., Arlington, VA 22201, and to the newsletter editor (see below). As the official newsletter of Division 6, **BNCP** publishes official business, committee reports, news items, job announcements, information on technical issues, topics of current interest, and information about the professional activities of Division 6 members. News items and articles should be submitted to the Editor at the address below (preferably by email). Paid advertisements are not officially endorsed by Division 6. The Editor welcomes comments and suggestions for ways in which **BNCP** can better serve the needs of the members. The preferred method of submission is by email. Send correspondence and submissions to David J. Bucci via e-mail at [david.j.bucci@dartmouth.edu](mailto:david.j.bucci@dartmouth.edu). Postal mail should be sent to David J. Bucci, PhD, Department of Psychological and Brain Sciences, Dartmouth College, Hanover, NH 03755. Other contact information: Phone: (603) 646-3439; FAX: (603) 646-1419.