



Abu Ghraib: Informing Congress About the Science

by Heather O'Beirne Kelly, Senior Legislative and Federal Affairs Officer

TABLE OF CONTENTS

Executive Director's Column: Infrastructure for the Science of Psychology	3
Research at NIMH: Looking Ahead	4
Science Briefs: Animal Models of Memory	5
Interesting Careers: An Experimental Psychologist in a Behavioral Science Research Firm	9

One of the goals of APA's Public Policy Office is to bring relevant psychological science to bear on issues of national concern. On Thursday, June 10th, science policy staff organized an APA Congressional Briefing on Capitol Hill to educate a target audience of congressional staff and federal agency personnel about psychological research related to the recent incidents in the Abu Ghraib prison in Iraq.

Two distinguished psychological scientists spoke at the briefing: social psychologist Steve Breckler (APA's Executive Director for Science) and I/O psychologist Kevin Murphy (Head of the Department of Psychology at the Pennsylvania State University). In his talk, "How can the Science of Human Behavior Help us Understand Abu Ghraib?", Breckler gave an overview of the social psychologi-

cal principles relevant to the prisoner abuse situation. Drawing on decades of research on the power of the situation to influence and shape behavior and on the stability of individual personalities, Breckler discussed the relevance of findings on social conformity, compliance, obedience to authority, individual differences, and factors that mitigate responses to social influence.

Murphy's presentation, "How can Psychological Research in Military Contexts Help us Prevent Another Abu Ghraib?", highlighted the study of organizations, and the military in particular. Murphy focused on how our knowledge about organizational

climate and cultural factors, end-accountability, collective corruption, leadership, training, and whistle-blowing can be effectively transferred into military contexts to impact prevention of further incidents and



Steve Breckler, APA's Executive Director for Science, discusses relevant psychological research on individual and group behavior.

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intervention following such events.

The briefing drew a large crowd of more than 100 people, even in the midst of unusual week in Washington during which former President Reagan lay in state in the U.S. Capitol. APA has since received a request from the US Army's Materiel Command to provide information from the briefing that might inform the official investigation of the incidents at Abu Ghraib. More information can be found at <http://www.apa.org/ppo/issues/abughraib-brief04.html>. ■

"Funny Feelings" Focus of Department of Justice Workshop

by Geoffrey Mumford, Director of Science Policy

For a day and a half at the end of June passersby may have had a hunch that something exciting was happening at Marymount University in Arlington, Virginia. Or more to the point, they might have had a gut feeling that a group of august researchers were partnering with a who's who of the law enforcement and intelligence communities to talk about the phenomenology of "intuition"...because that's precisely what happened.

search community were quite willing to roll up their sleeves and listen respectfully to divergent points of view. On the first day, the 50 participants were divided amongst 6 breakout groups to independently consider a range of scenarios meant to help identify instances of intuition. The scenarios and other background information can be found at: <http://www.apa.org/ppo/issues/intuition.html>.

We then regrouped to discuss summaries of those breakout group discussions. APA member Robert Kinscherff kindly agreed to serve as facilitator throughout the workshop and was masterful at keeping the group on task. Susan Brandon, now the Assistant Director of Social, Behavioral and Educational Sciences at the White House Office of Science and Technology Policy (OSTP), served as co-organizer of the workshop and worked into the night to provide a summary PowerPoint presentation for the following day (<http://www2.apa.org/ppo/brandon604.ppt>). Then as a means to help identify a concrete research agenda, Bryan Vila, Chief of the Crime Control and Prevention Research Division at the National Institute of Justice within the Department of Justice (DoJ), compiled a list of questions that may be used to stimulate programmatic activity, either at DoJ or within the intelligence community (<http://www2.apa.org/ppo/vila.ppt>). We expect that a more detailed summary of the workshop will be published in a future edition of the Law Enforcement Bulletin.

The assembled expertise included law enforcement, intelligence, and research community participation from Italy, the United Kingdom, Germany, and Canada as well as the four corners of the United States, and we are extremely grateful to NIJ and the FBI Academy's Behavioral Science Unit for jointly funding the workshop and helping us to bring psychological research to bear on yet another set of topical issues related to both are national and homeland security interests. ■

Dutiful readers of PSA may recall that within days of 9/11/01, APA's Science Directorate put out a call to the research community to help us think through the myriad ways that psychological science might be relevant to counter-terrorism initiatives. When it became clear that there were a number of issues relevant to security, intelligence and law enforcement operations that might be informed by research, we began to nurture relationships with agencies beyond just those that fund research to include those that might use such research in applied settings. Inspired by then-Senior Scientist, Susan Brandon, a series of workshops with the theme of "integrating theory and practice" was born.

As with other workshops in this series, "The Nature and Influence of Intuition in Law Enforcement: Integration of Theory and Practice" drew upon experiential scenarios developed by staff of the Behavioral Science Unit at the FBI Academy in Quantico, VA. The scenarios were distributed in advance of the meeting to stimulate discussion during breakout sessions at the workshop. The goal of the workshop was really to develop a research agenda. While a few of the scientists were quite skeptical that the phenomenon of intuition existed (even if it could be relabeled as "complex pattern recognition"), most agreed it was worth examining further. And consistent with our experience in pulling together these forums, those from the operational community and those from the re-

2

Science Policy Insider News

What is SPIN?

- APA's Science Policy staff wants you to know about the important policy issues that affect psychological science and psychological scientists at the national level. The Science Policy staff advocates for psychological science not just with members of Congress, but also the Departments of Defense, Health and Human Services, Transportation, Veterans Affairs, Education and with the National Aeronautics and Space Administration and National Science Foundation. To keep you aware of science policy within these agencies and on Capitol Hill, we have created APA's Science Policy Insider News (SPIN), a monthly email newsletter that will take you inside the Administration and Congress for timely information from your APA staff. Visit SPIN at <http://www.apa.org/ppo/spin/homepage.html>.

EXECUTIVE DIRECTOR'S COLUMN

STEVEN BRECKLER, Executive Director for Science

Infrastructure for the Science of Psychology

Oceanographers have large ships to help with their work. Astronomers and astrophysicists share an amazing network of telescopes perched on mountaintops and that orbit distant planets. Biologists depend on electron microscopes, economists, sociologists and political scientists prize their large-scale surveys, and geographers are counting on geographic information systems to carry their science into the 21st century. These are all examples of infrastructure – shared and costly resources that provide widespread benefit for one or more scientific disciplines.

What is the infrastructure of psychological science? We don't have boats, telescopes, or satellites to do our work – nor do we need them. Most of the work of psychology gets done with off-the-shelf and general-purpose technology: microcomputers, tape recorders, video recorders, and lots of paper and pencils. Psychology can claim credit for the technology of measurement and assessment, which offers a ubiquitous infrastructure for research on personality, individual differences, learning, and psychopathology. Perhaps not unique to psychology, research with animals depends importantly on species that have been carefully bred for specific characteristics. This is infrastructure.

Perhaps the best example of a potentially sharable and costly resource for psychology is in the area of cognitive neuroscience, which depends heavily on magnetic resonance imaging (MRI) facilities and expertise. Indeed, the innovations of functional MRI have produced a revolution in our understanding of human and animal cognition.

Thinking of fMRI as an infrastructure for psychological science helps to highlight several important issues. One is a trend for researchers to want their own



– to have their own scanner right down the hall, and available for their own use 24/7. In part, this is an understandable response to a common situation in which researchers must currently borrow or rent MRI time (and not typically prime time) from a facility housed in the medical school or university hospital located across campus or even across town.

Of course, MRI facilities are expensive to build and to maintain. It makes more sense – pragmatically and economically – for scientists to share MRI resources rather than each acquiring their own. The problem is that this approach flies in the face of the culture of scientific psychology, which tends to favor individual control and ownership of data, facilities and equipment. The federal funding agencies have been willing to indulge researchers by providing support for very local imaging facilities, reinforcing the culture of individual proprietorship.

The idea of a shared resource is critical. fMRI has not yet achieved the status of true scientific infrastructure, because the technology and the facilities are not widely available. It still takes a lot of money and friends in the right places to gain access to this resource. As a discipline, psychological science could reap enormous benefit by investing its energies and funding resources in building imaging facilities that are widely available and shared by all of its citizens.

My sense is that the idea of sharing

is not a popular one in scientific psychology. A case in point is the use of large-scale datasets. Psychologists like to collect their own data, analyze their own data, and publish their own data. This is reasonable and sensible when the scientific problem can be properly investigated and understood within the limits of a single laboratory in a single location relying on a locally available population of people or animals. Yet, many problems worthy of investigation are too big for this approach.

What do we do when a nationally- or internationally-representative sample is needed? What do we do when the efforts of hundreds or even thousands of researchers are needed to collect the relevant data? What do we do when the cost of collecting those data exceed the size of an average single-investigator grant from NSF or NIH?

The answer is that we pool our resources – our money, our talent, our local facilities – and we create a shared data resource. One example relevant to psychology is the NICHD-funded study of early child care. Another example, currently being contemplated by a consortium of federal funding agencies, is the National Children's Study which would examine the effects of environmental influences on the health and development of more than 100,000 children across the United States, following the children from before birth and into early adulthood. These are both examples of true scientific infrastructure – shared and costly resources that provide widespread benefit for one or more scientific disciplines.

As we charge into the 21st century, the science of psychology faces many challenges. Chief among them is to identify and build the kind of infrastructures that will allow our discipline to prosper and grow. APA is well-positioned to take the lead in identifying the infrastructure needs of psychological science and advocating for support in federal funding agencies. But we can't do it alone – we need to share this one. ■

Research at NIMH: Looking Ahead

by Thomas Insel, Director, National Institute of Mental Health

Editor's comment: PSA invited Tom Insel, Director the National Insitute of Mental Health, to address concerns in the psychological science community about changes in the NIMH mission and funding portfolio. He describes his vision of NIMH's mandate and purview.



4 With forecasts of either minimal increases or actual decreases in NIH budgets, it's not surprising that many scientists are anxious about the future of NIH support for their research. Behavioral scientists, in particular, have expressed concern that basic behavioral science, traditionally supported by the National Institute of Mental Health (NIMH), may be specifically targeted for reduced funding or even elimination by the NIMH. This is not the case. However, we are setting priorities for funding – an essential response to the new budget reality. I appreciate this opportunity to explain how we plan to do this.

The NIMH mission is to reduce the burden of mental and behavioral disorders through research on mind, brain, and behavior. Like other disease-specific institutes at NIH (such as the National Cancer Institute or the National Institute of Allergy and Infectious Diseases), our goal is to generate research that will enhance prevention of and recovery from specific illnesses. And like these other institutes, we view basic science – in our case, research on brain and behavior – as the engine of scientific discovery necessary for success. We also recognize that discovery is not enough; we need to ensure that discoveries translate to the clinic and ultimately into widespread practice. This translation of science to service is a necessity for our nation and an urgent priority for us. As stewards of federal funds, we are accountable to the American public to generate high-quality research that will ultimately relieve the suffering associated with mental disorders.

For NIMH to meet these ambitious goals in the current budget climate, we need to set priorities. In doing so, we have followed three principles. First, we solicited input from our many stakeholders: patients, families and their advocates, grantees and their professional societies, Congress, and the National Advisory Mental Health Council (NAMHC), which includes public members. Second, we have asked workgroups of the NAMHC to review NIMH portfolios in basic science and clinical trials and to recommend priority areas for future investment. The basic science report can be found at the following NIMH website: <http://www.nimh.nih.gov/council/brainBehavioralScience.cfm>. And finally, we have been reviewing both current and new grants with respect to three factors: relevance, traction, and innovation. In this context, relevance means connection to the Institute's mission, traction indicates capacity for rapid progress, and innovation refers to novel areas or approaches that are under-represented in the portfolio. The result of these discussions will be a list of priorities posted on the NIMH web site by each extramural program to guide grantees to areas of investment. High priority will go to studies of the pathophysiology of mental disorders and studies that may lead to new interventions aimed at reducing

the burden. This will require not only applying the best behavioral, genomic, and neuroscience insights, but also developing new insights and approaches in each of these disciplines. We want to be entirely clear on this point. Much of the basic science we fund may not be immediately ready for translation; yet it will address basic questions about behavior, brain, and experience that are informed by and, in turn inform, the understanding of mental disorder, recovery, or resilience.

Indeed, without a strong basic science research program, we will not have the science to translate in the next decade. Certain areas traditionally supported by NIMH may be considered lower priority because they are a high priority for other institutes or for the National Science Foundation. For instance, grants on visual sensory processing belong to the National Eye Institute, studies of communication are at the core of the National Institute of Deafness and Communication Disorders, and much of the research characterizing normal development, parenting, marriage, and family is central to the National Institute of Child Health and Human Development; as a result, such studies will be a lower priority for NIMH. There will be exceptions to these guidelines based on the focus of individual proposals, but as a general rule, NIMH will endeavor to focus its portfolio around specific priorities, with attention to relevance, traction, and innovation.

There is no doubt that within the realm of basic science, basic behavioral research will be vital to our success. Mental disorders are the result of genetic vulnerability and experience. Increasingly, we are learning how these interact; we now know, for example, that specific genetic alleles confer risk for depression following stressful life events (Caspi et al, *Science*, 2003) and that varying developmental experience can modify genomic structure via

continued on page 12...

SCIENCE BRIEFS

Animal Models of Memory Disorders Give Insight into How Psychological and Neural Systems Interact

by Lisa M. Savage



Lisa M. Savage received her doctoral degree in Psychology from the University of Minnesota in 1992. She is currently an Associate Professor of Psychology in the Behavioral Neuroscience program at Binghamton University, State University of New York. Her research program uses animal models to ask questions about learning and memory in normal and brain-damaged populations. She was awarded the 2002 APA Distinguished Scientific Award for Early Career Contribution to Psychology in the area of Animal Learning and Behavior/Comparative Psychology.

Animal models have been key to our understanding of the psychological and physiological underpinnings of many disease states (see Carroll & Overmier, 2001). For example, in the field of learning and memory animals models have been instrumental in shaping our understanding of how the normal and damaged brain processes information. Animal research has taught us that there are multiple memory systems that interact: competitively, cooperatively or in parallel—depending on the cognitive demands and psychological nature of the task (see Gold 2002; Kim & Baxter, 2001; White & McDonald, 2002). My colleagues and I, using a rodent model of Wernicke-Korsakoff Syndrome (WKS), have asked questions about the changes in psychological and neural processes that occur after specific brain damage. WKS is a nutritional disorder in humans associated with chronic alcoholism that, if left untreated, can cause severe amnesia. The pyriethiamine-induced thiamine deficiency (PTD) model successfully mimics both the neuroanatomical damage and behavioral impairments observed in WKS. However, while WKS is a somewhat heterogeneous disorder, patients vary in the degree and location of neuropathology (Knopelman, 1995). The behavioral symptoms of WKS were critical in establishing the theory of multiple memory systems. It is evi-

dent that not all memory functions are impaired by WKS or temporal lobe damage and animal models of these disorders were essential in determining the brain regions that caused certain types of memory impairment (see Squire, 1992). The PTD model has consistently demonstrated that damage to the thalamus (specifically the anterior and midline thalamus), a subcortical structure, is central to the loss of learning and memory function that occurs following thiamine deficiency (see Savage et al 1997; 1998, 1999). Thus, this model, as well as many others, has allowed us to ask and answer pertinent questions regarding changes in function and recover of function that occur under specific neurological disease states.

Interactions Between Memory Systems

Learning and memory are complex phenomenon requiring the coordinated interaction of multiple brain structures. The diencephalon, a subcortical region that includes the thalamus and hypothalamus, has been characterized as an integral connection zone for many memory-related circuits. There are connections between the thalamus and the hippocampus, as well as the amygdala and striatum. All three of those regions (hippocampus, striatum, amygdala) are important for different types of memory (Squire, 1992; White

& McDonald, 2002). Although in both the human condition of WKS and the PTD model there appears to be no gross hippocampal neuroanatomical alteration, hippocampal-related behaviors appear to be impaired (Langlais, Savage & Zhang, 1996).

The use of animal models provides us with an unique opportunities to access neural function (i.e., neurotransmitter release) in one brain region after damage to another while the animal is cognitively challenged. Recently, we have used in-vivo microdialysis to observe the interactions between the hippocampus and the diencephalon using the PTD model while the animals are solving a maze task (Savage, Chang & Gold, 2003). This study demonstrated that the behavioral impairment produced by diencephalic damage (i.e., PTD-treatment) is accompanied by decreased release of acetylcholine (ACh) efflux in the hippocampus that is only evident under certain environmental conditions: PTD-treated rats display a reduction in hippocampal ACh efflux when they are navigating a maze and cognitively processing spatial information. In contrast, when PTD-treated rats are in a home cage (not cognitively challenged) they have normal hippocampal ACh levels. This study demonstrated the importance of the

Continued on next page...

...Science Briefs,
continued from page 5

nature of the behavioral activity when assessing neurological dysfunction. Psychological challenges drive brain activation and understanding brain activity under different behavioral states will be critical for the development of therapeutics.

The goal of this research and some of our present research is to gain insight into what interconnected brain structures become down-regulated and which ones compensate after brain damage. Understanding the individual and interactive role of brain structures is critical for understanding normal memory function and for treating disorders of memory. Presently, we understand very little about the underlying psychological and neurobiological mechanisms associated with behavioral change and recovery of function after brain damage; however, the continued use of animal models will be key to our gaining further knowledge about such dynamics.

Behavioral Plasticity

We have found that small manipulations of task contingencies can dramatically change behavioral outcome after brain damage (see Savage, 2001). Using the Differential Outcomes Procedure (DOP), developed by Trapold in 1970, which correlates to-be-remembered events with distinct reinforcement conditions, we have demonstrated in multiple different rodent models of memory disorders (WKS model, advanced age model, Alzheimer's model, temporal-lobe amnesia model) that this slight manipulation reduces or eliminates behavioral impairment (Savage & Langlais, 1995; Savage, Pitkin & Cariei, 1999; Savage, 2001; Savage, Buzzetti, & Ramirez, in press). Rats with damage to the diencephalon, aged rats and rats with pharmacologically-induced amnesia do not show the traditional memory impairments when trained with the DOP, but display impairments when trained with either a common reward or random rewards (a Nondifferential Outcomes Procedure [NOP]; see Savage 2001 for a review). For example, PTD-treated rats will require about

twice as many trials as nondamaged control rats to learn a matching-to-position task (200 vs. 100 trials). This task requires rats to remember which spatial location they previously visited.

However, if each to-be-remembered item (i.e., spatial location) in the task is correlated with a unique reward outcome, PTD rats will perform as well as control rats, displaying no learning impairment at all (Savage & Langlais, 1995). Based on the results of Savage & Langlais (1995) a similar procedure was tested in humans. This study that demonstrated that correlating to-be-remembered faces with unique rewards (the DOP) enhances memory performance in WKS patients (Hochhalter, Sweeney, Savage, Bakke, & Overmier, 2001).

This functional difference (spared vs. impaired learning/memory performance) produced by manipulating reinforcement contingencies maps onto other multiple memory system approaches. One of the most widely used theoretical perspectives of the dual memory system approach is that of the explicit and implicit memory systems (Squire, 1992). We have applied this perspective to our data produced using the DOP as described below:

Explicit memory is the term used to describe the system that processes the intentional recall and recognition of people, places, things and events. A number of amnesic and demented populations (i.e., temporal lobe and diencephalic amnestics, Alzheimer's patients) are impaired on tasks that activate this memory system. Implicit memory, on the other hand, refers to the process of unintentional learning—one does not have to consciously attend to what one is learning. Classical conditioning and priming are examples of implicit memory processes. Many populations that display explicit memory impairment have normal implicit memory processing

We propose that the system tapped when the DOP (unique rewards correlated with to-be remembered events) is

used with a task is the implicit memory system. This implicit memory system is functionally and structurally different from the explicit memory system that is used to solve memory problems when unique rewards are not used ([the NOP]; see Savage, 2001; Savage, Pitkin & Carieri, 1999; Savage, Buzzetti & Ramirez, in press). The explicit memory system is primarily activated when a common reinforcement procedure or the NOP is used within a matching-to-sample paradigm. Under these circumstances (no unique reward information), the subject must rely on its memory of what the sample stimulus was to solve the task successfully. Relative to those data, we hypothesize that the DOP produces reward expectancies—and the reliance on these reward-related processes activates a memory system that differs from the system commonly used to solve conditional discrimination tasks. Our recent data and those of others suggest the amygdala is important for solving a discrimination task when the DOP is used (Blundell, Hall, & Killcross, 2001) whereas the hippocampus is critical when it is not used (Savage et al, in press).

In summary, changing the type of cognitive information an animal can use to solve a task, by manipulating task variables, can recruit different brain regions—demonstrating behavioral and neural plasticity. Using such strategies, brain-damaged subjects can solve complex tasks in new ways without impairment. Understanding this type of behavioral plasticity is important for understanding recovery of function in general. Thus, animal models are critical in understanding cognitive dysfunctions and how brain structures interact in new ways after damage. ■

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continued on page 7...

...continued from page 6

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Kathleen McDermott Wins \$25,000 F.J. McGuigan Young Investigator Award

Kathleen McDermott of Washington University in St. Louis has been named the recipient of the 2004 F. J. McGuigan Young Investigator Prize in recognition of her achievements in several areas of research in human memory. Combining behavioral techniques with those of functional magnetic resonance imaging, she has already made striking and influential contributions to the field. McDermott's research falls roughly into three areas: false memory, neural substrates of memory, and implicit measures of memory.

McDermott is the second recipient of the biennial prize; the first was Steven Luck of the University of Iowa. The award is funded through the American Psychological Foundation and administered by the APA Science Directorate. For more information please visit its website at <http://www.apa.org/science/mcguigan.html>.

APA Advanced Training Institutes: In What Areas Would You Like to be Trained?

The APA Advanced Training Institute (ATI) program has been extremely successful at training researchers in innovative techniques such as fMRI and structural equation modeling. ATIs are held over the summer, and last anywhere from two-and-a-half days to an entire week.

In 2005, the Science Directorate will be looking to expand the program into new areas - ideas mentioned so far have included behavioral genetics, media technologies, geographic information systems, and others. We'd like to hear more.

If there's an area you're interested in, visit <http://www.apa.org/science/ati.html>.

Interesting Careers

An Experimental Psychologist in a Behavioral Science Research Firm

Sunny Becker, PhD., Human Resources Research Organization

I always squirm when I meet new people in casual social settings and they broach the inevitable question: "So what do you do?" I don't have a tidy answer. My husband is a professor. My brother is a restaurant manager. My father is a retired Marine. I am... well.... My answer varies:

- I am an experimental psychologist.
- I am a quantitative psychologist.
- I am an educational researcher.
- I am an evaluator.
- I do military research.
- I work for a nonprofit research firm outside of Washington D.C.
- What do you need me to do?

First, let me explain how I got here. I completed an A.S. in Computer Science as a teenager and thought I would write computer software until I decided what I wanted to be when I grew up. Fifteen years, a B.S. in Information Systems, three jobs, and several promotions later, I found myself managing a large team of software analysts for a major computer firm. To make a long story slightly shorter, let's just say I had a midlife crisis and decided to become a professor of Psychology

I entered graduate school to study under Warren Torgerson—a brilliant, practical thinker—at the Johns Hopkins University. I intended to investigate quantitative modeling of memory, but first Torg asked me to help with a U.S. Army study of the relative efficacy of three types of night vision goggles (NVGs). I spent the next few years traipsing around the woods at night. We conducted a series of experiments in which soldiers were fitted with one of three NVGs (monocular, biocular, or binocular), traversed an unfamiliar path as quickly and accurately as possible, then repeated the process with two more goggles and different paths. We tallied their errors (e.g., wrong turns, tripping) and timed them. My role was

to assist in the experimental design and setup (including cutting paths through the underbrush), help with experiment administration, and analyze the results. This was not what I envisioned when I applied to graduate school, but great fun, nonetheless.

In between NVG experiments, I developed a dissertation on the effects of hyperstereopsis on perceptual depth compression, which included developing multi-dimensional scaling software in C++. I learned lots of quantitative techniques, but never got around to studying memory.

Meanwhile, I saw that most of my graduate school colleagues headed to post-doctoral positions, and I became disillusioned with the long road required of an academic. I also recognized that my professorial friends were highly specialized in narrow disciplines, while my interests are wide-ranging.

PhD in hand, I abandoned academia to be a Statistical Specialist in the Research, Evaluation, and Accountability Office of Prince George's County Public Schools (PGCPS). Now, here's the thing: I didn't know anything about educational research or evaluation. But much to my delight I discovered that the skills I had honed in grad school—organization, critical thinking, statistical analysis, good research design, technical writing—were the very ones I needed to succeed in this new field. This was quite an eye-opener.

In August 1998 I joined the Human Resources Research Organization (HumRRO), a non-profit behavioral science research firm headquartered in Alexandria, VA. I expected to conduct educational research at HumRRO, but such is the nature of a contract research firm that there were no education projects for me to work on at the

time. And so I became a military researcher. In my first week I visited the Pentagon and also started work on a research team supporting a Congressional Commission—pretty heady stuff. Again, the same skill set came into play. In short order I participated in my first survey development, content analysis, and focus group administration, in addition to the statistical analyses that I considered my bread and butter.

Eventually our educational research contracts built up so that now most of my work is in that area. But the beauty of an environment like HumRRO's is the variety of work. Our matrixed organizational structure forms a specialized team for each project. After five+ years my projects have included:

- a longitudinal study of characteristics and attitudes that predict first-term attrition in the Army;
- a Congressional study on military training and gender-related issues;
- a longitudinal evaluation of the new California High School Exit Examination;
- an investigation of how well Department of Defense schools prepare K-12 students for transfer to civilian schools and college;
- an evaluation of the impact of several organizational development initiatives in the Immigration and Naturalization Service;
- development of performance-based assessments to ensure that college education majors are technologically adept;
- evaluations of various public school magnet programs; and
- quality assurance of all aspects of the development, administration, and reporting of the National Assessment of Educational Progress.

I can honestly say that I have learned something on every project, and I am never bored. So, what do I do? I guess my answer takes about 800 words. Don't ask me at a party. ■

Human Research Protection Programs Accreditation and Oversight – Can it Help With Your IRB?

by Marjorie A. Speers, Executive Director, AAHRPP

Editor's comment: As we talk with our colleagues and listen about research issues, one of the most frequent concerns is IRB regulation and oversight. Psychologists - whose research comprises the vast majority of behavioral and social science research that comes under IRB purview - have varied experiences with their IRBs. Over the last several years there has been a move to accredit institutional oversight processes, analogous to the current accreditation of animal research laboratories. We asked Marjorie Speers, the Director of one of the organizations chartered to develop accreditation services, to discuss how accreditation might benefit behavioral and social sciences research.

Many of you may have heard of AAHRPP ("ay-harp") – the Association for the Accreditation of Human Research Protections. But you may not know just what AAHRPP does, nor why its activities are likely to benefit psychologists whose research comes under IRB review.

AAHRPP is an organization, founded in 2001, whose mission is to offer a voluntary accreditation program for institutions responsible for overseeing research involving human participants. Since May 2003, ten organizations have been accredited, including universities, hospitals, and independent review boards.

AAHRPP was founded by seven national organizations committed to the ethical conduct of human research, including the Association of American Medical Colleges (AAMC), Association of American Universities (AAU), the Federation of American Societies of Experimental Biology (FASEB), National Association of State Universities and Land Grant Colleges, National Health Council, Public Responsibility in Medicine and Research (PRIM&R), and the Consortium of Social Science

Associations (COSSA) of which APA is a member. COSSA's involvement helps ensure that AAHRPP's philosophy and program are friendly toward psychology and other behavioral and social sciences and that its accreditation standards cover the range of non-biomedical human participants research. In addition, every effort is made to ensure that the behavioral and social sciences are represented in AAHRPP's administration, Board of Directors, Council on Accreditation, and in the site visit teams.

Why are AAHRPP and its programs good for psychological science? Many of you may wonder how another level of oversight could be a good thing, or how accreditation and its accompanying institutional self-study and evaluation could benefit the behavioral sciences.

There is a widely held belief that the federal regulations for protecting human subjects are not readily applicable to psychological research because they were developed largely in response to highly publicized clinical research abuses and are used and interpreted under a biomedical framework. Of course, the basic ethical principles that govern the conduct and review of research are the same regardless of the type of research – i.e., the principles of respect for persons, beneficence, and justice do not change with research design. Whether conducting a psychological experiment involving students, interviews with adults, or a secondary analysis of existing identifiable data, investigators must respect individuals as human beings and protect their rights and welfare.

However, the standards for achieving these ethical principles do differ according to research design and the level and nature of risk associated with the study. And this is where the problem lies. The federal regulations, which are

taken to reflect the ethical principles and standards, must be interpreted appropriately for different types of research. And, here is where AAHRPP's unique position can benefit behavioral research.

As both Director of AAHRPP and as a psychologist I am well aware of the psychology community's concerns about research oversight issues broadly, and how they relate to voluntary accreditation in particular. Behavioral scientists have understandable concerns about research review and the IRB process. However, these concerns can be addressed with positive outcomes through the AAHRPP accreditation process.

The accreditation process involves a lengthy period of information gathering and self-assessment, for which AAHRPP provides guidance that promotes high-quality practices. Institutions can thus improve their practices on the way to accreditation. Each accreditation involves at least one site visit by a team that always includes a behavioral or social scientist when there is behavioral/social science research at the institution. When examining a broad research portfolio at a university, the site visit team considers a number of issues, including whether the local IRB interprets the accreditation standards according to the different types of research being conducted. The site visit team will look at the way the IRB reviews the informed consent process, handles consent documentation requirements for behavioral and social science research, and the use of the expedited review process for research involving no more than minimal risk.

In all research, there can be both over and under-interpretation of the regulatory requirements. In addition to looking for instances of over-interpretation, the site team also looks at areas where

...continued on page 13

An Update from the Board of Scientific Affairs (BSA)

by Suzanne Bennett Johnson, Chair of BSA

The Board of Scientific Affairs (BSA) consists of nine scientists, representing nine different areas of psychological science, elected by APA's Council of Representatives. BSA meets twice a year, in the spring and the fall, for two and a half days in Washington, DC. These meetings are called "consolidated meetings" because all of the major APA boards and committees meet at the same time.

10

At these meetings, BSA is updated on APA Science Directorate activities but also has an opportunity to provide consultation and commentary on issues, documents, and resolutions coming from practice, education, public interest and other areas of the association. In addition, BSA is briefed about what's happening in the federal agencies and in Congress and provides suggestions and information to public policy staff about advocacy activities and trends and issues in research funding. BSA also regularly sets aside time to discuss opportunities and challenges to psychological science and to provide input on how APA and the Science Directorate can assist, educate, or inform our colleagues and the public.

BSA is excited about several new projects. First, we developed a Culture of Service Initiative because BSA is well aware that service of all kinds - grant and manuscript review, policy and funding advocacy, communicating scientific findings to policy makers and the public, committee work at the local institutional level as well as in organized academic associations - is rarely valued or rewarded. Worse, it is often discouraged as a time-wasting activity that interferes with productivity in other areas deemed far more worthy - publications and grant-funding. BSA believes we need to change this rigid reward structure. BSA believes that the future of our science and discipline depends not only on producing good science but also on producing good leaders in our professional organizations and funding agencies. We need scientists who are willing to advocate

for strong psychological science. We need scientists who are willing to take leadership roles in the institutions that regulate us, organize us and fund us. We need scientists who are willing to bring their expertise and perspectives to organizations like APA.

BSA and the Science Directorate are beginning a dialog at several levels - with division leaders, department chairs, university administrators, other psychological science organizations, and individual scientists at all levels of seniority. We hope this dialogue will identify opportunities for and barriers to service as well as strategies to create a culture in which service is more highly valued and encouraged. We feel it is especially important to model a culture of service for graduate students and to mentor new faculty to become science leaders.

Responsible conduct of research (RCR) is a second BSA initiative. There are a broad range of issues needing our attention including research ethics, data sharing, publication and authorship, peer review, conflicts of interest, navigating IRB and HIPPA issues, to name a few. These issues are important to multiple APA constituencies and require policy and education activities. Consequently, BSA is recommending that a comprehensive initiative be put into place to position APA to serve as a resource and clearinghouse for RCR issues. Products of this initiative include excellent articles produced by the Advisory Group on the Conduct of Research on the Internet, titled "Psychological Research Online," *American Psychologist*, 59(2), and the IRB Project Working Group titled IRBs and Psychological Science: Ensuring a Collaborative Relationship. A Task Force on Research Regulation has been established; it met in 2003 and will meet again in 2004 to develop a set of recommendations for BSA and the Science Directorate that will provide guidance for future activities. Currently the Science Directorate staff is also collaborating with the DHHS Office

of Research Integrity (ORI) to put on workshops focusing on research integrity and RCR issues.

BSA's Academic Enhancement Initiative started a few years ago and includes the Advanced Training Institutes (ATI), Summer Science Institute and other programs. The ATIs are designed to provide psychologists in-depth training in the use of a variety of scientific methods such as fMRI, structural equation modeling in longitudinal research, accessing and using large scale data bases, and meta-analytic procedures. New ATIs are always under development to respond to the needs of the scientific community and the availability of new methods, tools, and approaches.

BSA also oversees the activities of its standing committees - the Committee on Psychological Tests and Assessment, the Committee on Animal Research and Ethics, and the Committee on Scientific Awards, and receives reports from collaborative groups such as the Joint Committee on Testing Practices. BSA's Task Force on Psychological Testing on the Internet recently published a shorten version of its report, "Psychological Testing on the Internet: New Problems, Old Issues" in the *American Psychologist*, 59(3). Among the many other topics that BSA discussed were definitional issues of evidence-based practice; threats to the free circulation of scientists and scientific information; future opportunities for psychological scientists, and ideas for future APA activities.

BSA oversees APA's science-related activities with other organizations through the appointment of liaisons to these organizations. APA has liaisons to the Association for Assessment and Accreditation of Laboratory Animal Care; the American Association for the Advancement of Science; the College on Problems of Drug Dependence;

...continued on page 13

2004 APA Meritorious Research Service Commendations Awarded

Five psychologists were awarded the Meritorious Research Service Commendation. This award, developed by the Board of Scientific Affairs (BSA) recognizes outstanding psychologists who help foster the discipline through their programmatic activities in support of psychological science. BSA members developed this award to provide a clear mechanism for recognizing the important ways that programmatic contributions can advance the discipline.

Psychologists in funding agencies can play a crucial role in the development of the discipline -- in running the programs that fund psychological scientists, in identifying new opportunities and directions, in working with the science community to chart needs and challenges, in serving as a catalyst for promoting cutting edge opportunities, and in shepherding behavioral research within their institutions.

Nominations were solicited during the winter of 2003 and 2004 and the recipients are: **Ronald P. Abeles** [Office of Behavioral and Social Sciences Research (OBSSR), National Institutes of Health (NIH)]. Abeles is Special Assistant to the Director, Office of Behavioral and Social Sciences Research (OBSSR), in the Office of the Director, at the National Institutes of Health (NIH). He is being recognized for raising the standards of psychological science, increasing the skill levels of researchers, and introducing psychologists to cutting edge interdisciplinary research through his leadership roles at the National Institute on Aging, the Office of Behavioral and Social Sciences Research, and the Health and Behavior Coordinating Committee at NIH.

Israel I. Lederhendler [National Institute of Mental Health (NIMH)]. Lederhendler is Chief of the Basic Behavioral and Systems Neuroscience Research Program at the National Institute of Mental Health (NIHM). He is also serving as Interim Director of the Electronic Research Administration at the National Institutes of Health (NIH). He is being recognized for his advocacy of outstanding psychological research at the National Institute of Mental Health (NIMH) and for his dedication to the interests and needs of psychological researchers.

G. Reid Lyon [National Institute of Child Health and Human Development (NICHD)]. Lyon is Chief of the Child Development and Behavior Branch of the NICHD. He is being recognized for his leadership of the Child Development and Behavior Branch of NICHD and for enhancing the understanding and appreciation of psychological science to members of Congress, the President of the United States, and the educational community. In addition, his direction of the program on reading and learning disabilities has had a major impact on the shaping of education research and public policy decisions.

Willo Pequegnat [National Institute of Mental Health (NIMH)]. Pequegnat is Associate Director for Prevention, Translation and International Research and NIMH Senior Prevention Scientist at the Center for Mental Health Research on AIDS in the Division of Mental Disorder, Behavioral Research and AIDS, NIMH. She is being recognized for her leadership role in HIV prevention research initiatives sponsored by NIMH and for her mentoring of young behavioral scientists entering the field of AIDS behavioral research.

Anita M. Sostek [National Institutes of Health (NIH)]. Sostek is Director, Division of Clinical and Population-Based Studies, Center for Scientific Review at the NIH. She is being recognized for her leadership at the Center for Scientific Review for ensuring that reviews are fair, equitable, and maintain the highest of

scientific standards. In addition, she has served as an outstanding mentor and source of information to scientists in the field.

The recipients of the 2004 commendations will be honored at the December 2004 APA Board of Directors meeting and at a luncheon at the Spring, 2005 meeting of BSA.

The recipients of the Meritorious Research Service Commendation for the last two years were:

2003: **Steven J. Breckler** (National Science Foundation)

- **Edgar M. Johnson** (Army Research Institute)

- **Peter G. Kaufmann** (National Heart, Lung, and Blood Institute, NIH)

- **Lisa S. Onken** (National Institute of Drug Abuse, NIH)

- **Delores Parron** (National Institutes of Health)

2002: **Rodney Cocking** (awarded posthumously) (National Science Foundation)

- **Robert Croyle** (National Cancer Institute, NIH)

- **Sarah Friedman** (National Institutes of Child Health & Human Development, NIH)

- **David Shurtleff** (National Institute of Drug Abuse, NIH)

- **Joseph Young** (National Science Foundation)

Nominations for the 2005 awards will be accepted beginning in the fall. For additional information, and nomination forms, please see: <http://www.apa.org/science/meritorious.html>.

The recipients of the 2004 commendations will be honored at the December 2004 APA Board of Directors meeting and at a luncheon at the Spring, 2005 meeting of BSA. For nomination information please see: <http://www.apa.org/science/meritorious.html>. ■

...NIMH, continued from page 4

methylation in select brain regions, with long-term consequences on behavior (Weaver et al, *Nature Neurosci*, 2004). Exploring how brain, behavior, and experience interact, we believe, will lead to the discoveries fundamental for understanding and successfully intervening in mental disorders. In addition, behavioral, social, and cognitive science research will be essential for valid diagnostic tests, clear phenotypes, new treatments, prevention efforts, and ultimately, dissemination to diverse populations.

How do we further exploit the gains we have made to meet the challenges ahead? How can we encourage more behavioral science that informs the development of new interventions or helps elucidate the intricacies of brain-behavior interactions? We believe that cross-disciplinary interaction and collaboration is a key means of accomplishing these translational goals. We have seen recent progress in the interdisciplinary study of the extinction of fear memories, which has provided new neurobiological insights and novel interventions for PTSD. There has also been significant advancement in the examination of the long-term consequences of stress during early development, which has provided new approaches to the pathophysiology of depression. Social neuroscience is another exciting new interdisciplinary research area, where the new tools of neuroscience – from transgenic mice to neuroimaging in humans – have yielded insights about social cognition, important for understanding the pathophysiology of autism.

As we are urging increased communication and interaction among our research communities, our organizational structure is being re-focused to facilitate and accelerate translational and interdisciplinary science. The aim of the new structure is to enable the rich promise of discovery offered by basic research to more clearly identify brain-behavior pathophysiology – and to translate this critical knowledge into developing more effective interventions that target symptoms and functioning.

As a part of the reorganization we will recruit several new program officers in areas relevant to translation, including basic behavioral science.

Fully integrating across levels of analysis will require changing our scientific culture. One means of accomplishing this will be through the support of research training that emphasizes cross-disciplinary interaction and translation. For many years, NIMH has been among the lead NIH Institutes in support of research training and career development, with nearly 10 percent of its budget devoted to these programs. This represents twice the investment made by many other Institutes. However, we must seriously consider whether to continue to support and encourage such a large pipeline of researchers if funding opportunities become even more competitive. We will continue to support training and career development grants, but we must sharpen our focus, identifying the key areas and skills that will prepare new investigators to be highly competitive by pursuing innovative research that is highly relevant to our public health mission and priorities.

Priority-setting and reorganizing are always complex, difficult tasks. But we must remember that they are driven by the need to get new and existing therapies to the millions who are desperately in need of them, and to prevent these diseases whenever possible. Integrating the insights from behavioral and cognitive research with new approaches in genomics and neuroscience will build on the progress achieved thus far in understanding and treating mental illness. Our goal is to capitalize on this impressive nexus of scientific fields and combine them to redefine the boundaries of behavioral and biomedical neuroscience research. We clearly need the behavioral sciences community to address the complexity of mental disorders in terms of etiology, diagnosis, prevention, treatment, and access to care. I ask you and members of this community to help NIMH address these challenging scientific and public health issues. ■

...AAHRPP, continued from page 10

regulations might be under-utilized, such as in providing privacy protections or in maintaining confidentiality of data. In reviewing an organization that conducts behavioral research, the site visit team's goal is to ensure that the organization appropriately interprets its obligations to protect participants.

Why is voluntary accreditation beneficial to behavioral/social sciences? By ensuring that behavioral and social scientists play a part in the review and accreditation process, another valuable aspect of voluntary accreditation is that it offers a set of national standards that organizations can strive to meet, and that can be consistently interpreted. In addition, voluntary accreditation will leave the oversight process in the hands of institutions and scientists – AAHRPP was founded during a period of intense scrutiny of research programs, and lawmakers' interest in further regulating in this arena has not yet abated. If the research community can demonstrate a commitment to self-regulation, the less likely it is that members of Congress will respond in ways we fear may be truly restrictive and burdensome. The research community's willingness to meet a set of national standards is likely to convince those responsible for regulation and guidance that more is not needed.

Although accreditation is yet another layer of oversight, and does require an investment of material and human resources, its benefits may make it a worthy return on investment. In addition to improved protection programs, assurance that accredited organizations are in full regulatory compliance, and ultimately, increased public trust in research, the accreditation process allows the research community to define and aspire to its own best practices.

I welcome your queries about the AAHRPP accreditation program, and encourage you to visit the AAHRPP Web site, www.aahrpp.org, where complete information about the program is available. ■

July 2004 Announcements

Science Directorate 2004 APA Convention Programs

The Board of Scientific Affairs (BSA) will sponsor a number of exciting programs at the APA Convention in Honolulu, Hawaii, July 28 – August 1, 2004. For more information, visit: <http://www.apa.org/science/convention04.html>.

NAS Award for Scientific Reviewing, Accepting Nominations

NAS Award for Scientific Reviewing recognizes authors whose reviews have synthesized extensive and difficult material, rendering a significant service to science and influencing the course of scientific thought. The field for this award changes every year and will be for psychology in 2005. Nominations for the 2005 awards will be accepted until September 10, 2004. For more information, please visit the NAS Awards page: <http://www4.nationalacademies.org/nas/nasaward.nsf?urllinks/NAS-58N2CB?OpenDocument>.

APF Offers Three \$20,000 Graduate Scholarships in Child Psychology

The American Psychological Foundation (APF) is offering up to three \$20,000 Elizabeth Munsterberg Koppitz Scholarships to support graduate studies in child psychology in 2005. The purpose of these scholarships is to nurture excellent scholars in the broad area of the psychology of the child, such as developmental, child-clinical, pediatric, school psychology, educational psychology and developmental psychopathology. Support will be from Sept. 1 to Aug. 31 each year. The award includes travel costs to attend the APA pre-conference workshop for Elizabeth Munsterberg Koppitz Graduate Fellows at the APA Convention and other relevant conferences as funds allow. APF will also award travel stipends of \$4,000 to runners-up to enable their travel to APA's convention and to encourage travel to other conferences as funds allow.

Graduate students who have achieved doctoral candidacy are eligible to apply. Students can apply before having passed their qualifying exams, but proof of having advanced to doctoral candidacy will be required before funds are released. Consideration will be given to psychological research that breaks new ground or creates significant new understandings that facilitate children's and youth's development or functioning. The deadline to apply is November 15, 2004. Recipients will be announced on or after February 15, 2005. For complete application guidelines, please visit APF's website, www.apa.org/apf, or send a request to foundation@apa.org.

Funding Available to Study LGB Family Psychology

The American Psychological Foundation (APF) seeks applications for the Roy Scrivner Research Grants, which promote research on lesbian, gay, and bisexual family psychology and therapy. The Scrivner Fund provides postdoctoral grants of up to \$10,000 and graduate student grants of up to \$1,000 each, with preference given to dissertation candidates. Researchers from all fields of the behavioral and social sciences are encouraged to apply.

Applicants for the postdoctoral research award, including co-investigators, must have a doctoral degree. Applicants for the student grants must be enrolled in a graduate program and have a letter of support from their supervising professor. All research involving human subjects must be approved by an institutional review board from the principal investigator's institution. The application deadline is November 1, 2004. Application guidelines are available from www.hookerprograms.org or by contacting the APF office at foundation@apa.org. ■

...BSA, continued from page 10

the Council of Scientific Society Presidents; the Federation of Behavioral, Psychological, and Cognitive Sciences; the International Test Commission; the Social Science Research Council; and the Society for Neuroscience. Future issues of Psychological Science Agenda will highlight these organizations and APA's relationships with them.

The BSA meeting agenda also includes the selection of people for lecture programs and a variety of awards. BSA members selected the recipients of the

2004 Meritorious Research Service Commendation (see article this issue) and the speakers for the Master Lecture Program, the Neal Miller Annual Lecture, and the Distinguished Scientist Lecturer Programs. You can read more about these programs on the APA Science web pages (www.apa.org/science). In addition to regularly scheduled agenda items, BSA members also met with APA's past president, current president, and president-elect, to share information regarding BSA/ Science Directorate initiatives and pres-

idential initiatives, and met with APA'S CEO, Norman Anderson, to discuss his points of emphasis. And of course, BSA members found time to bring each other up to date on their research, professional, and private lives!

In November, we will all return to Washington for the fall consolidated meetings. In the meantime, we meet regularly by conference call to make sure BSA's varied and important agenda stays on track. ■

Goldstone and Suzuki Win 2004 Troland Research Awards

by Amena Hassan, Science Communications Officer

14

Robert L. Goldstone of Indiana University and Wendy Suzuki of New York University were named as the recipients of the 2004 Troland Research Awards in Psychology. The awards, each in the amount of \$50,000, are granted every year to two young investigators, age 40 or younger, by the National Academies of Sciences and recognize notable achievement as well as further empirical research dealing with relationships between consciousness and the physical world.

"It was definitely an amazing feeling to win the award, after I was convinced that they hadn't made a clerical error," joked Goldstone, who received the honor for novel experimental analyses and elegant modeling that showed how perceptual learning adjusts dimensions and boundaries of categories and concepts in human thought. He believed the award was particularly meaningful because it is typically given to behavioral scientists who used quantitative, formal, or neurophysiological models to study the human mind. "A growing confederation of cognitive scientists is no longer satisfied with verbal descriptions or taxonomies of mental functions, but rather is striving for mathematically precise descriptions and working computational models," he stated. "I'm proud to be part of this movement."

Goldstone, who received his PhD from the University of Michigan, will be using the award money to support a new direction in his research. "I've become interested in approaching group psychology from a complex systems perspective. In the same way that groups of ants create colony architectures that no individual ant understands, or groups of neurons create structured thoughts that no neuron understands, so groups of people create higher-level, emergent organizations that no individual may understand or even perceive. I would like to try to describe and model some of these emergent social organizations."

A large part of his achievement, he says, is due to his colleagues who were a key factor in the support of his research. "In addition to being both phenomenally supportive and helpfully critical, all of these individuals have provided a valuable brain trust that I have used again and again as a resource," stated Goldstone. "In my own research, I have argued that we learn from our experiences in the world, but then our experience of this same world is influenced by what we have learned. I feel that this is personally true; that I have been cognitively reconfigured by my colleagues and I think it's definitely been an upgrade."

Wendy Suzuki received her award for her fundamental work on the neuroanatomy, physiology, and function of brain structures important for memory. "When I first heard the news, I was literally stunned," she said. "It took a few minutes to sink in but this was followed by a big celebration in the lab." Suzuki, who earned her PhD at the University of California, San Diego, feels that because the type of experiments that she did with her team could progress painfully slowly it held even more significance to obtain this kind of recognition.

"I never tire of the study of memory because there are so many fascinating basic questions left to answer about how memory is organized in the brain. There are also such important clinical implications for understanding and possibly ameliorating the severe memory problems seen in Alzheimer's disease," she stated. In terms of where the field is heading in the future, she thinks that a key for future studies of the neurophysiology of memory is the development of a wider variety of memory tasks that are species appropriate and tap into the naturalistic memory functions of the experimental animal being studied.

"I think people studying memory in rats have the right idea in sticking to

spatial and olfactory memory tasks that the rats learn and perform very well. I think a similar shift towards using more ethologically significant memory tasks in monkeys is an exciting new direction. These kinds of tasks would not only be learned faster by the monkeys, but given the right task design, could start to address episodic-like memories that are a hallmark of human memory function."

Funds are used by the recipient to support his or her research within the broad spectrum of experimental psychology, including the topics of sensation, perception, motivation, emotion, learning, memory, cognition, language, and action. For both awards, preference is given to experimental work, which takes a quantitative or other formal approach, including mathematics and explicit algorithms (e.g., computer modeling) or symbolic logics of various types, and/or to experimental research seeking physiological explanations. For 2005 award nomination information, please visit the NAS website at: http://www4.nationalacademies.org/nas/nasaward.nsf/NominationPub/Awards_Nominations. ■

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Psychological Science Agenda is published monthly by APA's Science Directorate. Dedicated to promoting and serving scientific psychology, *Psychological Science Agenda* provides news about national scientific policy developments, examines policy issues affecting and affected by the behavioral research community, and highlights the advocacy efforts of the Science Directorate on behalf of research and academic psychologists. *Psychological Science Agenda* also features news of APA's governance and program initiatives relating to scientific and academic psychology, and provides valuable, timely information about funding opportunities for research psychologists.

Psychological Science Agenda is distributed free to 30,000 psychologists, members of Congress and their staffs, key officials in federal agencies that fund behavioral research and use its findings, institutional libraries, and science writers in the national media.

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