



Psychology News

Senior Instructors: A Passion for Teaching

“Senior Instructors are the heart, soul, and backbone of the delivery of our department’s undergraduate education,” says Professor Bob Spencer, Associate Chair of Undergraduate Education in the department. He’s referring to Drs. Joe Berta, Diane Martichuski, Brett King, Natalie Smutzler, Tina Pittman Wagers, and newly-appointed David Allen. They cover more than half of all undergraduate credit hours, teaching at all levels from large introductory courses to small upper-level classes. These are the teachers and mentors that many alumni remember fondly when thinking of their undergraduate years at CU.



Seated: Brett King, Tina Pittman Wagers, Dave Allen, and Natalie Smutzler
Standing: Joe Berta and Diane Martichuski

Each of our senior instructors brings significant teaching experience to their role, as well as a unique knowledge base. Dr. Berta’s area of expertise is behavioral genetics. Dr. King’s background is in forensic psychology and the history of psychology. Dr. Martichuski’s forte is social psychology and statistics. Dr. Smutzler’s area of expertise is research in clinical psychology. Dr. Pittman Wagers has a strong background in the teaching and

practice of clinical psychology. And Dr. Allen, who comes to us this fall from CU’s Department of Integrative Physiology, brings his knowledge of cellular and molecular neuroscience.

While each instructor has a unique area of expertise, the common bond between them seems to be a passion for teaching and a fascination with the field of psychology since their undergraduate years or even earlier for some. We asked each instructor what they love about teaching and how they originally got interested in psychology. Their answers follow and you’ll also get a glimpse of their high school or undergraduate years since they all bravely agreed to share photos from the time period when their interest in psychology originally developed.

(Continued on page 3)

Table of Contents

Message from the Chair	2
Research News	4-5
Farewell to The Chick and Gary Show	4
Professor Emeritus Update: Lyle Bourne	5
Awards	6
Alumni Spotlight: Murray Carpenter	7
Donate to the Department	Back Cover

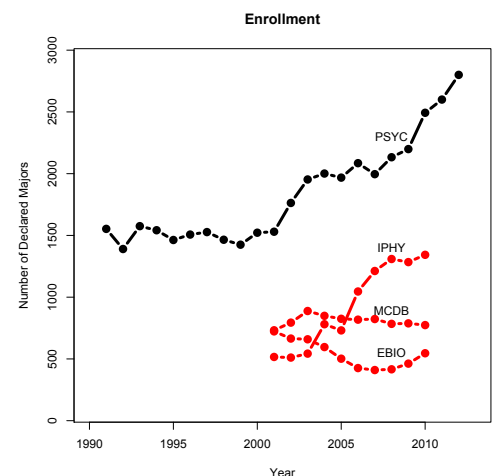
Message from the Chair



Every five years the department undergoes a rigorous program review by the university. This year all the life science departments are being reviewed. We began last fall with an internal self-study to examine our strengths and weaknesses and to describe how we see ourselves developing over the next five years. The self-study was evaluated by two colleagues from other departments and then by a distinguished panel of three psychologists from other universities. Finally the self-studies and the external review committee reports of all the life science departments and institutes were reviewed by a panel of provosts and chancellors from other universities. Our department, as well as the Institute of Cognitive Science and the Institute for Behavioral Genetics, were lavished with praise for

the quality of our faculty and our diverse research activities that have received so much national and international attention. They were, however, critical of some aspects of our undergraduate curriculum and how it is organized. The faculty response to these criticisms has been inspirational. Throughout the summer there have been spirited meetings of the faculty and staff discussing ways to improve the curriculum and to give our undergraduates a more full and satisfying educational experience. It was especially gratifying to see how deeply committed we are to teaching as well as to research. By early fall we expect to have exciting changes ready to implement.

One of the chronic problems we have faced is that although the number of psychology majors has steadily risen over the past ten years, the number of permanent faculty positions has remained constant. In fact, with retirements and no replacements we have actually had a reduction in the faculty. The graph to the right shows how the number of psychology majors has increased since 2000. We have the largest number of majors on the campus. The graph also presents data for Integrative Physiology, MCDB, and Ecology and Evolutionary Biology. The program review reports made clear that the department must hire additional faculty if we are to maintain our excellence in teaching and research. The campus and college administration responded favorably to this situation: we have been given permission to hire three new tenure track members and one new senior instructor. David Allen, the new senior instructor, will teach several behavioral neuroscience courses. His enthusiasm for students and for teaching is outstanding. Joshua Correll joins us as an associate professor with tenure. Josh has garnered an outstanding international reputation for his important research on decision making under stressful conditions, especially decisions by police officers to shoot or not to shoot at a suspect. He is moving from the University of Chicago to CU and will play a key role in keeping our graduate statistics and data analysis training at a state-of-the-art level. We are thrilled that both David and Josh have accepted our invitation to join the department. The two other positions are not yet filled: one in clinical psychology and one in behavioral neuroscience. We will conduct searches in the fall and by the spring semester, we will have chosen two additional new members of our faculty. Things do get better!—*Lew Harvey*



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Senior Instructors: A Passion for Teaching (continued from page 1)

What originally got you interested in the field of psychology?

Joe Berta: The courses that I took in philosophy as an undergraduate brought up what I thought were intriguing questions: What is mental stuff? Where does it come from? Does it make sense that it is due to our brains? And can the mind be studied scientifically?



Diane Martichuski: I was interested in the mind—how logic works (or doesn't), how we make decisions, why people are so different in terms of personality traits, why I am the way I am—at a very young age, probably around sixth grade. I was always watching people and trying to figure out what made them different from me. I took a psychology class in high school, and really connected with the material and wanted to learn more.

Brett King: Batman. When I was a little kid, I was impressed with how he used his knowledge of human nature to outthink his opponents. I told my dad about it and he explained that Batman was using psychology. That was the beginning of my interest in forensic psychology.



Tina Pittman Wagers: I actually wasn't planning a career in psychology until a couple of undergraduate psychology classes at the University of Virginia proved to be particularly inspirational, and spurred me on to pursue a career in mental health, first as a Clinical Social Worker, and then as a Clinical Psychologist. What interests me

generally is the human experience, how we function in the world, how we relate to one another, the things that make us tick (or not) and, most importantly, how we help people through times in their lives that are characterized by suffering.

Dave Allen: I first got interested in psychology as an undergraduate taking courses like General Psychology, Abnormal Psychology, and Developmental Psychology at UCLA. I have always been fascinated by human behavior—what motivates people to think, feel, and act the way they do? As time has gone on I've gotten particularly fascinated by research in the area of neuroscience and how the brain is no longer a “black box” but a fascinating organ that can be studied directly through imaging, electrophysiology, and other innovative methods.



Natalie Smutzler: I took my first psychology class as a sophomore in high school. It was more visceral than anything, but I knew I found my profession.



What do you most enjoy about teaching?

Joe Berta: The stimulating questions and views of students who are looking at questions in psychology with fresh eyes.

Diane Martichuski: I love the look on students' faces when they *really* get a concept that they have been struggling to understand.

Brett King: I love to learn and I enjoy sharing my interests with people. I learn something new nearly every time I lecture, either from something that I've read about the topic or from some insight that my students share with me.

Tina Pittman Wagers: In addition to the pleasure of interacting with students, I really enjoy the process of teaching: having a structure and a plan for how I am going to guide students from point A to point B, but always working to keep the journey fresh and new by integrating new information and research into the class (not hard to find in this active, dynamic field!) as well as finding new ways of making the material engaging.

Dave Allen: Most of all I love taking a particularly difficult topic like the action potential or gene expression and breaking it down so that it can be understood. I also love interacting, both in the classroom setting and one-on-one in office hours, with students who are enthusiastic and want to learn.

Natalie Smutzler: Everything.

—Alivia Segal

Research News

The Linguistic Brain: How We Understand a Sentence *by Dr. Al Kim*



My laboratory investigates the neural and cognitive mechanisms that allow human language comprehension. When we recognize a word during typical reading we must extract multiple levels of representation—orthographic (spelling), phonological (speech sounds), grammatical, and semantic (meaning)—all within a few hundred milliseconds. When we understand a sentence, we must recognize a new word three to five times a second, while combining the words to form larger, compositional meanings. We do so effortlessly in spite of large amounts of ambiguity and noise in the rapidly unfolding linguistic input. My research seeks to understand this complex process and also why and how it can sometimes go wrong due to developmental disorders or brain damage.

Most of my work uses event-related potentials (ERPs) to record the brain's electrical activity while people read and listen to language. Because ERPs have exquisite temporal resolution, we are able to illuminate the rapid processes of word recognition and language understanding. By manipulating the nature of the linguistic stimuli that participants process, we are able experimentally to isolate changes in brain activity that are associated with processing events like the perception of grammatical anomaly, semantic processing difficulty, or orthographic processing difficulty.

Recently, we have focused on the role of working memory resources in holding in mind and manipulating the multiple representations that are required to understand a sentence. We have observed striking individual differences within the population in the availability of working memory resources and the resulting strategies for language processing. These individual differences may shed light on disorders of brain damage that involve deficits in working memory.

Mindfulness Interventions for Anxiety and Stress *by Dr. Joanna Arch*

A major focus of my work involves investigating mindfulness, acceptance, and compassion-based interventions for anxiety and stress. For example, we recently published the largest randomized trial of an acceptance-based intervention for anxiety disorders to date. This work demonstrated that over a one-year follow-up, patients randomized to the acceptance-based treatment improved more than patients randomized to the gold-standard treatment, cognitive behavioral therapy. Another recent randomized trial for anxiety disorders demonstrated the efficacy of a mindfulness-based intervention among largely low-income veterans in the VA healthcare system.



I am currently extending my work on anxiety disorders to the realm of behavioral medicine, as I am interested in addressing the needs of distressed and anxious cancer survivors. With funding from the American Cancer Society and CU Boulder's innovative seed grant program, I am currently piloting an adaptation of an acceptance-based intervention that addresses the specific psychosocial needs of this population.

I am also interested in understanding *how* such interventions work. For example, ongoing laboratory and field work investigates whether brief mindfulness instructions reduce performance anxiety, and increase the capacity to experience pleasure and regulate behavior under stress. Other work examines the physiological outcomes of brief training in self-compassion. Preliminary results suggest that, relative to an active control condition, brief self-compassion training reduces autonomic and hypothalamic-pituitary-adrenal (HPA) axis reactivity and speeds recovery in response to social threat.

Farewell to “The Chick and Gary Show”



On May 3, 2012, Professors Gary McClelland and Chick Judd taught their last class of General Statistics, Psych 5741-5751, also known as “The Chick and Gary Show,” ending their twenty-ninth year of teaching the course since it started in 1983-84.

The next day, May 4th, our department celebrated those twenty-nine years of teaching with a party at the Koenig Alumni Center. To view the presentation created for the party by Lou McClelland, and to see more photographs from the party, go to <http://psych.colorado.edu/news.html> and look for the news entry under May 2012.

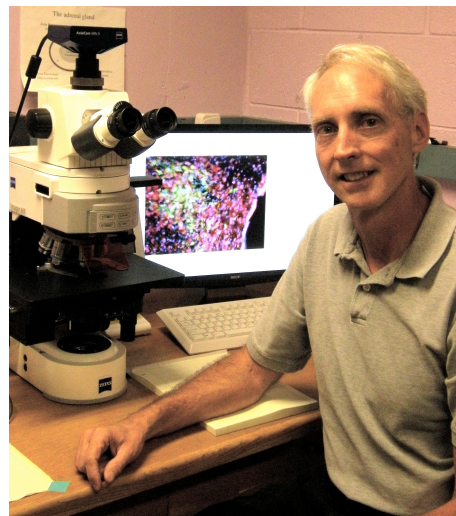
Research News

A Matter of Brain Time: Clock Genes and Stress Hormones *by Dr. Bob Spencer*

“There is a time for everything.” Ecclesiastes 3.1

The daily coordination of the complex cellular and neurocircuit activities that underlies our brain function is vital to our physical and mental health. Besides general sleep/wake cycles, there is an ebb and flow (circadian rhythms) of a number of our brain functions over the course of the day that includes reaction time, memory performance, attention and mood. These circadian rhythms are dependent on pacemaker neurons located in a subregion of the brain (hypothalamic suprachiasmatic nucleus). Moreover, rhythmic activity of each of these cells is controlled by a molecular clock that keeps precise time, day after day. Central to this molecular clock are a number of genes known collectively as clock genes.

Undergraduate and graduate students in my laboratory are using rodent animal models to study clock gene activity throughout the brain, and how that activity in various brain regions is synchronized appropriately. We are exploring the extent to which that synchronization depends on the strong circadian variation in secretion levels of glucocorticoid hormones (cortisol is the human form of this hormone). Interestingly, this hormone is also secreted in response to stress. We are testing the hypothesis that chronic stress leads to desynchronization of molecular clocks throughout the brain by disrupting the normally robust daily time-giving signals provided by glucocorticoid hormones. This desynchronization may account for many of the circadian dysregulations that are associated with various psychological and neurological disorders, such as fragmented sleep, early morning awakening, cognitive performance difficulties, and daily fluctuations in mood. We believe that these studies will lead to new understanding of how manipulation of this glucocorticoid neuroendocrine system can be effectively used as a component of chronotherapy to treat various mental disorders.



Professor Emeritus Update: Lyle Bourne



Lyle Bourne joined our department in 1963, after holding positions at the University of Utah and the University of California, Berkeley. During his early years at CU, Professor Bourne was part of what he calls “the cognitive revolution.” In 1980, he transformed the Institute for the Study of Intellectual Behavior (ISIB) into the Institute of Cognitive Science and became its first director. Over the years, his research interests changed direction several times and shifted, most recently to skill acquisition. His research has been supported by numerous federal grants with the capstone being a five-year, \$5-million grant from the Army Research Office (jointly with Professor Alice Healy) received in the early 2000’s. Professor Bourne became Professor Emeritus in 2002. During the past decade he has enjoyed the luxury of focusing solely on research and writing. Even today, he has four papers in press.

Professor Bourne is endowed with a fascinating American heritage beginning in the 1600’s with the arrival of two Bourne brothers from England landing on Cape Cod. One brother, Richard, was a missionary who became an advocate for Native Americans retaining their land. The second brother, Garrett (sometimes called Jared), in contrast, joined the militia and spent most of his life fighting the Native Americans, driving them from their land. Now, the question is: to which brother does Professor Bourne trace his lineage? Here’s a hint. The female protagonist in the historical novel by D. Navas entitled *Murdered by His Wife*, a story entangled with Bourne history, is somewhere in Lyle’s family tree.

In spite of being landlocked for over fifty years, Professor Bourne has nurtured his Cape Cod roots by keeping his sailing skills sharp on local lakes around Colorado and, on occasion, hitting the high seas on family sailing trips to the Caribbean, Tahiti, and the Greek Isles. Next up, the Canary Islands. —*Kate Bell*



Awards

So far, 2012 has been a year of abundant awards. Our faculty, students and staff have been amply recognized by the department and the university as well as the broader scientific community. Professor Serge Campeau, chair of the department's Awards Committee, believes that awards can boost morale. "Aside from personal recognition," he says, "it's good for everyone in the department to hear about each other's dedicated work and to recognize that we're all part of such a talented group." He notes that his role on the Awards Committee gives him a chance to see the high quality of performance throughout the department. "Until you take a hard look at what everyone here is doing, you simply don't appreciate the level at which everyone works. It's a real eye opener."

Here are awards given by a variety of sources over the first half of this year:

January

Professor **Linda Watkins** was named the CU-Boulder "Inventor of the Year" by the University of Colorado Technology Transfer Office for developing both novel drugs and new uses of known drugs as pain therapy.



Professor **Gary McClelland** and College Professor of Distinction **Chick Judd** were named co-recipients of the 2012 Jacob Cohen Award for Distinguished Contributions to Teaching and Mentoring, given



by the American Psychological Association's Division of Evaluation, Measurement, and Statistics.

April



Professor **Sona Dimidjian** and Dr. **Tina Pittman Wagers** received the 2012 Dorothy Martin Woman Faculty Award for their outstanding teaching, research and service activities in support of women and

women's issues. The award honors women who exemplify the ideals of Professor Emerita Dorothy Martin, a faculty member in our department for 46 years who was instrumental in establishing the first CU Women's Center.

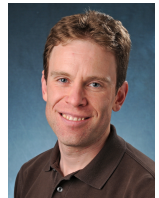
Graduate student **Sarah Banchefsky** (advisor: Bernadette Park) was chosen to receive the 2012 Dorothy Martin Doctoral Student Award. She was honored for her academic excellence and her research on women's issues.

Graduate student **Blair Kleiber** (advisor: Sona Dimidjian) received the Ted Volsky Memorial Award sponsored by the CU Graduate School for her dissertation study examining a skills therapy intervention for adolescent mothers with postpartum depression.

Graduate student **Lauren Chun** (advisor: Bob Spencer) received a 2012 Summer Research Fellowship from the Endocrine Society for a project with Dr. Spencer. She also received travel funds for the Society's 2012 meeting.

May

Staff member and undergraduate advisor **Dan Robinson** received the National Award for Advising Technology Innovation from the National Academic Advising Association. The award is for Dan's design and construction of the "Planet DARS" website, a site that is used by academic advisors all over campus to navigate the Degree Audit Reporting System (DARS).



Post-doctoral fellow **Jane Stout** received a Chancellor's Award for Excellence in STEM (Science, Technology, Engineering, and Mathematics) Education. This award, as part of the Integrating STEM Education program, was given for her proposal to examine the potential reasons for the gender gap in STEM participation.

Graduate student **Elizabeth Woodruff** (advisor: Bob Spencer) received the Sheryl R. Young Memorial Scholarship from the College of Arts and Sciences, given to honor female graduate students who exemplify strong academic accomplishments.

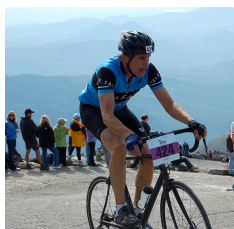
Our department gave the following awards in May 2012. **Ariel Aguilar** received the Imogene Jacobs Award given to the outstanding junior-year Psychology major. **Hannah Snyder** (advisor: Yuko Munakata) received the Dosier Award for outstanding graduate student in the Department. **Lindsay Anderson** (advisor: Alice Healy) received the Heyer Award honoring outstanding work by a graduate student in applied/organizational psychology. **Sophia Levis** and **Annette Grotheer** (co-recipients) received the Muenzinger Award for best Honors students. **Whitney Lyle** received the Heckendorn/Fryberger Award for her dedicated service to the Psi Chi Honor Society. **Stefanie Coltrain** and **Scott Richeson** (co-recipients) received the Staff Award honoring members of our support staff for their service to the department. The annual Faculty Awards were given to **Natalie Smutzler** (Faculty Service Award), **Tor Wager** (Faculty Research Award), and **Chick Judd** and **Gary McClelland** (Faculty Teaching Award). To view more recent awards since May, go to <http://psych.colorado.edu/news.html>.

Alumni Spotlight: Murray Carpenter (Class of '85)

Caffeine Project Has Boulder Roots *by Murray Carpenter*

It was a fortuitous juxtaposition. In 1982, I was an easily distracted psych major, and the College Avenue café/bookstore Brillig Works was between my house on 13th Street and campus. Sure, I first went in to hang out with my friends, but I soon realized it was a fantastic spot to get a caffeine boost for Norlin study sessions. A couple of cups of coffee, and I would have laser focus for two or three hours.

I had not been serious about coffee before then, though I dabbled. As a freshman, I remember sitting around with friends in the Libby Hall cafeteria and having a cup after a meal. But after Brillig Works opened my eyes, coffee became a passion and a habit. When I lived on Pine Street as a junior and senior, I often got my java at Penny Lane, where the imported cigarettes—sold singly for a nickel at the cash register—gave it a distinctly European feel. And I have fond memories of The Trident Café, on west Pearl, where the café au lait came in a big bowl, and the Sunshine Coffee House, with its thick mugs of strong coffee and tasty banana bread. On campus, I'd get a cup at the Packer Grill, often mixed half-and-half with hot chocolate.



Along the way, I began to wonder more about caffeine. Why do we so crave it, and what does the drug do in brains? These questions led me to write a paper on caffeine for Professor Michael Wertheimer's Senior Seminar in the fall of 1984 (it was a great course; we met in the living room of his house on The Hill). And when I was training with the CU cycling team in the spring of 1985, I began to understand its physical benefits, too. Especially the way the sugar/caffeine combo in a large bottle of Mountain Dew could give you a boost to ride the last 15 miles home after bonking on a long ride.

After college, I earned an MS in Environmental Studies from the University of Montana, married Margot Dale (Environmental Design, 1985), and moved to Maine. We have two daughters, so I often think of what Professor Robert Plomin said in his course on Behavioral Genetics: Everyone believes in nurture over nature until they have their second child. I settled into a career in journalism, working as a reporter for weekly newspapers and a daily news program on Maine Public Radio, and freelancing for a variety of magazines and newspapers.

While reporting a story in Colombia in 2008, I visited a coffee farm on the Sierra Nevada de Santa Marta. And my interest in caffeine, a smoldering ember since my undergrad days, flared up again. I began reporting related stories for the New York Times, NPR, and National Geographic, and decided to write a book on the subject.

All those classes in Muenzinger provided a foundation for much of the research. Here I was, once again, reading the DSM, scouring journal articles (which is easier now, thanks to Google Scholar), and revisiting stats. When I reported a story for the New York Times marking the 100th anniversary of a trial that pitted the fledgling FDA against Coca-Cola, I mentioned that Coca-Cola had hired psychologist Harry Hollingworth to study caffeine's effects on people, and he'd produced some excellent research. A few months later I found a draft of the paper I'd written for Professor Wertheimer, "The Effect of Caffeine on Cognition." And, though I'd forgotten his name in the interim, I had cited Hollingworth.

I am now writing that book on caffeine, exploring our obsession with coffee, the explosion of new energy products, and the latest health and science research. *All Jacked Up* will be published by Hudson Street Press (Penguin USA) in early 2014. It's an exciting project, and will owe a lot to the CU Psychology Department, and those fine Boulder cafés.



Murray with his daughters Lila and Romy, and wife Margot



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