Inside Psychology

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Psychological & Brain Sciences
University of California, Santa Barbara

INSIDE THIS ISSUE

"We are committed to ensuring that the pursuit of higher education is available to all of the best and brightest students in California and beyond."

A Story of Discovery

The Department of Psychological and Brain Sciences (PBS) is home to world-renowned faculty, 55 Ph.D. students, and 2500 undergraduate majors. Together we are pursuing cutting-edge science that expands our understanding of the mind, brain, and behavior.

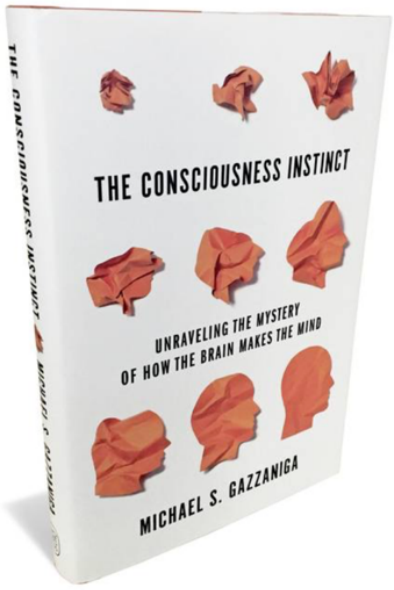
We are committed to ensuring that the pursuit of higher education is available to the best and brightest students in California and beyond. On April 12th the Department joined the larger campus community to celebrate UCSB Give Day 2018, a digital fundraising event that united Gauchos near and far to honor everything UCSB is known for: academic excellence, campus beauty, and inventive optimism. Together, we celebrated our university, our accomplishments, and our diversity. Give Day 2018 was an opportunity for alumni, faculty, staff, parents, and friends to make a collective impact, and Psychological and Brain Sciences had a record-breaking day of engagement.

No act of generosity was too small. Gauchos came together for a Give Day that will expand the possibilities for future PBS Gauchos.

Thank you to the Alumni, Faculty, Staff, Parents, and Friends who gave back on UCSB Give Day 2018. We had a record-breaking day and your generosity will serve future generations of PBS Gauchos.

‘Consciousness Instinct’

New book by PBS Professor Michael Gazzaniga examines the mystery of how the brain makes the mind



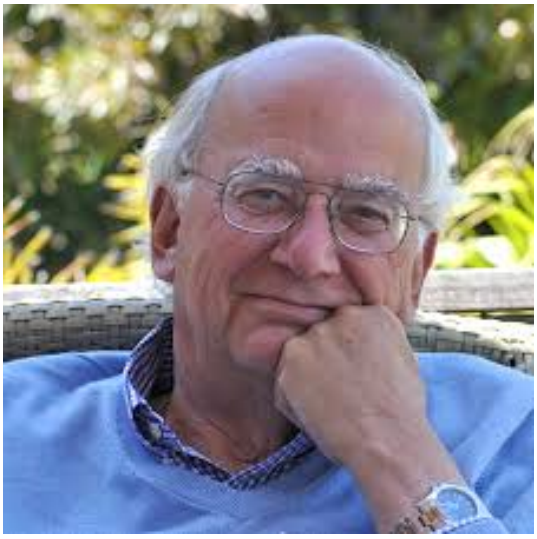
Despite massive breakthroughs in the field of neuroscience over the last century, one area continues to baffle both scientists and philosophers: **How do molecules, cells, neurotransmitters and other brain “stuff” create the abstract experience of self-awareness?**

In his new book, **“The Consciousness Instinct: Unraveling the Mystery of How the Brain Makes the Mind”**, Michael Gazzaniga, Professor of Psychological and Brain Sciences at UC Santa Barbara and director of the campus’s SAGE Center for the Study of the Mind, examines what he refers to as this “problem of consciousness.”

“There wasn’t even a word to talk about our current subjective experience until Descartes began using the word around the late 16th century,” Gazzaniga said. “Throughout the last 2,000 years, three predominant ideas about how consciousness works have become accepted,” he continued. “The Greeks first said that the brain/body creates consciousness. Then, 1,400 years after that came the idea that the brain/body does it, but upon death a ‘soul’ survives the body. And finally, with the onset of dualism, came the idea that the brain is mechanical, but the mind is floating around and makes contact with the brain in a particular spot.

“Therefore,” Gazzaniga went on, “consciousness either comes from a particular spot in the brain — be that the pineal gland or otherwise — or it comes in and animates us and then leaves us at death.” This simplified snapshot is what experts in the field have been working with up until the present day.

In his book, Gazzaniga uses the metaphor of the system of democracy to help explain his take on consciousness. “Consciousness is a ‘thing’ the way democracy is a ‘thing’ — it’s not something you can put on the table, it’s a process,” he said. “It’s a summation of processes that all happen in parallel and our consciousness is a product of these interacting parts.”



Michael Gazzaniga, Ph.D.
Photo Credit: GEORGE FOULSHAM

This concept of modular organization suggests that specialized areas of the brain do different things, and consciousness itself is the amalgamation of thousands of those processes happening at the same time. Specialized capacities come up one at a time, he explained, and through time they are stitched together to give the illusion of a unified consciousness. In effect, each individual part of the brain is doing its respective job, and each then passes information to the next level of command. This continues until the thought or function — say, sight or sound — becomes apparent.

"There are many layers behind the curtain, so to speak," Gazzaniga said.

The real question, though, is how to figure out how those layers communicate with one another. What is the protocol? "We have to think about this from the perspective that something can have dual natures, such as how light can be a particle and a wave," he said, adding, "but we don't yet know how that works."

But what does all this say about the nature of the spirit or soul and how the problem of consciousness fits into the discussion? And does reducing consciousness to a complex set of biological processes wring out all the beauty and mystery? "Understanding how a thing functions doesn't mean you can't appreciate its beauty, or that this knowledge depreciates it in your eyes somehow" Gazzaniga said. "This concern that somehow we are lessened by knowing more boggles my mind."

"Consciousness is a 'thing' the way democracy is a 'thing' — it's not something you can put on the table, it's a process."

From his perspective, scientific understanding of the problem of consciousness will not stop people from telling and believing in their cultural and personal stories. "We won't give up the ghost because we know how the heart works," he said. Ψ

Article by Chantal Peterson adapted from:
http://www.news.ucsb.edu/2018/018966/consciousness-instinct

New Faculty Spotlight

Tommy Sprague, Ph.D. will join the department as an Assistant Professor in Winter 2019. He is currently a postdoctoral fellow in visual neuroscience at NYU.

Tommy, tell us about your research. Describe a project that exemplifies your approach to science.

Tommy Sprague, Ph.D.

My research focuses on how the brain represents aspects of the world around you while you perform cognitive tasks. For example, one day after dinner when you open your refrigerator, you may be looking for a piece of chocolate cake, but the next morning, you're looking for an apple. In each case, the visual scene is the same, but the relevant aspects of the scene, such as the object's location – the top shelf or the fruit drawer – or color – brown or red - are different. How does the brain represent the apple when it's relevant to behavior compared to when it's irrelevant? In a series of studies, I've applied a new analysis technique to human fMRI data to measure the 'quality' of neural representations of visual stimuli (in the lab, I don't use apples and cake; instead participants view boring checkerboard images). With this technique, I reconstruct an 'image' of what the visual scene looks like according to a brain region, and compare these reconstructed images across conditions where a stimulus is relevant to behavior to those when the stimulus is irrelevant. In each study, I've found that the relevant stimulus is represented more strongly than the irrelevant stimulus, and moreover, that even a bright, distracting stimulus is not represented as strongly as a dim, relevant stimulus. These experiments focus not on which brain regions are active when, but instead try to target the information content of neural activity patterns, which will help us understand how the visual system dynamically guides our behavior.

You hold an undergraduate degree in cognitive science/neuroscience from Rice, a Ph.D. in computational neuroscience from UCSD, and a postdoctoral fellowship in psychology and computational neuroscience at NYU. How did these training environments shape your science?

Rice was where I first discovered my love for neuroscience and psychology. After my first cognitive psychology class during my freshman year, I joined David Eagleman's lab at Baylor College of Medicine in Houston where I worked for the next three years studying aspects of time perception. During that time, I was given amazing opportunities to conduct my own (simple) experiments and present work at conferences, including the annual SfN meeting. One of the best things about working with David was his intense creativity and open-mindedness about big ideas in science. While the day-to-day work of my research now is quite narrow and focused, I still try to keep the 'big picture' in mind thanks to him.

At UC San Diego, with my PhD adviser John Serences, I learned how exciting and powerful the visual system is for asking cognitive neuroscience questions (as a junior graduate student, before choosing a lab, I told all my classmates I hated fMRI and hated the visual system!). John also stood out as a particularly outstanding adviser – he always made time for students when necessary, and exemplified the UCSD spirit of conducting rigorous science while still living a fulfilling life. I hope to bring these qualities with me as I set up a lab at UCSB.

At NYU, I've been given the amazing opportunity to work on a diverse and exciting set of technical challenges, as well as to spearhead a new collaborative functional imaging research program between Clay Curtis and Wei Ji Ma's labs. I've also been very fortunate to be surrounded by the best and brightest vision scientists anywhere, who consistently challenge me with new and exciting ideas.

At UCSB, I hope to lead a collaborative and productive research group that tackles a diverse set of questions in visual cognitive neuroscience. One question I'm particularly excited about addressing is how and why neural representations change across task manipulations: can we relate known cellular-level mechanisms for response modulations with the large-scale modulations of neural representations we see in human imaging studies?

As an early career scientist working in the era of social media, what is your approach to using online platforms for science communication?

I think social media presents an interesting opportunity for disseminating scientific findings (promoting pre-prints or recent publications, conference presentations, etc.) and finding out what your colleagues are working on outside of conferences or meetings. I think it's also a really great opportunity to get to know people in the field without needing to meet in person. I personally have trouble entering into scientific discussion/debate on platforms like Twitter, largely because I find it extremely challenging to articulate a clear argument in 280 characters (ask my advisers – my mean email length is much, much longer!). But I do think it's really interesting to see how strong an

impact these platforms have had on scientific culture in the past decade. I've certainly been inspired to share resources and data based on the recent push towards open science, which will be the standard practice in my new lab.

What experiences outside of academic research have shaped your research most and how?

In high school and college I took several programming/computer science classes – like many nerdy high school kids, I thought it would be cool to create video games. But I quickly discovered programming was so much more than building the next Mario or Zelda – I fell in love with the methodical way you had to break down and think through a problem. Classes in college were even more exciting – instead of procedural programming styles, we spent a semester learning how to build complex systems without ever using typical programming constructs like 'if/else' and 'loops'.

To me, doing science is itself very similar to computer programming: you need to break down a problem into specific and well-defined chunks and think about creative ways to characterize those chunks. Sometimes, you just need to iteratively lay things out and evaluate all the possibilities in a row; other times, you must get creative and attack things from a totally different angle, perhaps by re-arranging the problem in a way that seems entirely nonsensical but turns out to just somehow magically afford new insight. One draw to the visual system is that it's often thought about like a series of computations on sensory input. My job, then, is to reverse-engineer the functions the brain is running at each stage of this process, and how those functions change when task demands are manipulated.

What are some of your non-academic hobbies and interests?

In graduate school, I began homebrewing beer with my classmates. While I remain terrible at it (in fact, a misunderstanding of how quickly CO2 is produced led to a very sticky accident involving overpressurized bottles), it's a fun way to try to apply scientific thinking outside the lab, and sometimes you end up with a tasty beverage at the end. During the summer I like to cheer for my hometown baseball team, the Houston Astros (sorry about 2017, Dodgers fans!). And whenever we get a chance, my wife Samantha and I like to travel – our favorite trip recently was to the big island of Hawai'i.

I will also reluctantly admit I have a medium-to-large LEGO collection, some of which will likely be taking up shelves in my office (the only way they can be truly safe from our cats, Max and Mia). Ψ

Seeing Stars

Two faculty members are named APS Rising Stars by the Association for Psychological Science

Dan Conroy-Beam, Ph.D. and Zoe Liberman, Ph.D.

In 2016, when Diane Mackie, the chair of UC Santa Barbara's Department of Psychological and Brain Sciences (PBS), hired Daniel Conroy-Beam and Zoe Liberman, she knew they were rising stars in their fields. Her instincts proved correct.

The Association for Psychological Science has named Conroy-Beam and Liberman among its new group of APS Rising Stars. The designation recognizes outstanding psychological scientists in the earliest stages of their post-Ph.D. research careers for innovative work that has already advanced the field and signals great potential for continued contributions.

"From the moment we hired them, Zoe and Dan have gone from strength to strength," Mackie said. "Their research productivity and impact are skyrocketing. They're both engaging teachers, sought-after mentors and generous department citizens. These awards come as no surprise to me."

Conroy-Beam, whose research examines how humans integrate multidimensional preferences, was chosen for his proposed algorithm illuminating the psychology of mate choice. "It's one thing to be recognized by your peers," he said, "but APS is a big organization that cuts across all of psychology, so it's especially nice to be named a Rising Star among this large group of people."

Using computer simulations to study attraction and mate choice, Conroy-Beam seeks to understand how people choose their romantic partners and what the consequences of those choices are. His work has two streams: collecting data from real people involved in committed romantic relationships, and writing and manipulating computer simulations of mating markets to create data sets. His goal is to use those to identify the decision processes that match simulated data to the real human data as much as possible.

"There's some debate as to how much our ideals actually matter in mate choice," Conroy-Beam explained. "It's not clear when people pick a partner how much those ideals factor into their decisions, because people's ideals and their actual partners don't tend to match that well. A big part of my work shows that people are actually trying to go out and get what they want, but that is constrained by the realities of their mating market, such as the nonexistence of an ideal partner, competing with rivals and finding someone who reciprocates."

Liberman received APS Rising Star status for her work exploring the origins of human social cognition in the context of its developmental and evolutionary foundations. "When you look at the other people who have been named APS Rising Stars in past years, they have gone on to do really interesting things," she said. "It's exciting to be part of a group of psychologists who are responsible for cutting-edge ideas."

A developmental psychologist, Liberman is particularly interested in the ways in which infants understand the social world. She seeks to determine how babies figure out different kinds of complicated relationships — kinship, friendship, social group membership — and how that decision-making process influences infants' reasoning and learning.

In one study, Liberman examined how babies understand who will act in certain ways. She found that infants expect people who are similar to be more likely to agree than people who are dissimilar. For example, infants expected people who spoke the same language — but not people who spoke different languages — to like the same foods.

"This suggests that infants understand a person's identity, such as the language they speak, and says something about that person's other traits," Liberman said. In fact, she noted, within hours of their birth, infants understand whether the language people are speaking is the one they heard in utero. "Before babies are speaking, they know that a language sounds familiar, which in turn may help them figure out whether a person is trustworthy, and whether they want to learn from that person," she added.

Conroy-Beam and Liberman join PBS assistant professor Kyle Ratner, who was named an APS Rising Star in 2015. Ψ

Article by Julie Cohen adapted from: http://www.news.ucsb.edu/2018/018901/seeing-stars

Strategic Expression

PBS Professor's new research explores facial expressions as tools for social influence

Alan J. Fridlund, Ph.D.

Maybe it was a pretty-please smile meant to talk a friend into sharing her dessert, or a serious stink eye intended to shake a moody kid out of his tantrum. Whatever the circumstance, we've all used our faces to get our way. As it turns out, we pretty much always do.

Our facial expressions stem primarily from intentions — not from feelings — says Alan J. Fridlund, an associate professor in the Department of Psychological and Brain Sciences at UC Santa Barbara who conducts innovative research on the meaning of facial expressions. His new paper, "Facial Displays Are Tools for Social Influence," co-authored with British researcher Carlos Crivelli, makes exactly that case.

"The traditional view of our facial expressions is that they're about us, that they reveal our moods and emotions," Fridlund said. "**Our faces are not about us, but about where we want a social interaction to go.** For example, the 'cry' face is usually considered an expression of sadness, but we use that face to solicit succor, whether that means reassurance, words of comfort or just a hug."

Published in the journal *Trends in Cognitive Sciences*, the new study supports and expands on Fridlund's previous work debunking the older, widely held assumption that facial expressions reveal people's emotions.

"This paper is an attempt to bring the field up to a scientific understanding of human facial displays, and to restore continuity with modern views of animal communication," Fridlund said. "From preschool on, we see smiley faces with the word 'happy' written under them. We see sad faces with the word 'sad' written under them. That may not be the best way to understand facial expressions. A monkey at the zoo that smiles at you is not necessarily happy — it is giving a 'submissive threat grimace.'"

In recent years, Fridlund said, biologists re-examined how animals communicate and began to see them as sophisticated communicators and negotiators, and his approach suggests that our facial expressions serve the same ends. The paper details the ways his behavioral ecology view of facial

displays has been useful in primatology and in artificial intelligence, and further delves into what Fridlund called "quirky phenomena," like the faces people make when they are alone.

"There is no doubt that what we do with our facial displays is different than what nonhumans do," Fridlund said, "but our displays function in many of the same ways. They act as social tools in behavioral negotiation."

The new work also incorporates Crivelli's own research on how indigenous Trobriand Islanders in Papua New Guinea — still largely untainted by Western traditions and conventions — think about emotion and use facial expressions. The investigators found that what previously had been considered a universal face of fear, in the case of the Trobrianders actually serves as a threat display aimed at frightening others into submission."

"Researchers in the 1960s had preconceived notions about certain expressions matching specific emotions," Fridlund said. "And so their experiments — devised and interpreted through a Western lens — were bound to corroborate those beliefs."

Many newer studies have investigated the links between facial expressions and emotions, he noted, finding surprisingly little evidence of a relationship between the two.

'Angry' faces don't necessarily mean we're actually angry, he explained. We may be frustrated, hurt or constipated — but regardless of how we feel, those faces serve to subdue, intimidate or signal possible retaliation against whomever we point them at.

"A 'disgust' face may mean a person is about to throw up, but it can also mean we don't like atonal music, and the other person knows not to put on a Schoenberg CD," Fridlund said. "When we ask someone about the weather outside, her smile says it's nice out, even if she's having a rotten day."

Fridlund's current work builds on research he first presented more than two decades ago in his book "Human Facial Expression: An Evolutionary View" (Academic Press, 1994). He is best known for his work on "audience effects," or how our knowing (or believing) that others are present influences our expressions. In past studies, Fridlund has shown that when we imagine being in situations that are fun, scary, sad or irritating, we make more expressions when we imagine being with others rather than facing those imaginary situations alone. People who watch funny videos, he said, smile more when they are watching with friends — and they smile just as much when they believe that a friend is watching the same video elsewhere at the same time.

"When we are with others, we're always checking to see how they are reacting, and they make faces when we see them looking for our reactions," Fridlund explained. "Those interacting don't have to be people, either. People make faces all the time at soda machines that don't return their change, or computers that reboot or update in the middle of a presentation. And they'll make the same faces if you ask them to imagine those situations." Ψ

Article by Amy Bentley adapted from: http://www.news.ucsb.edu/2018/018839/strategic-expression

Good Fellows

Two PBS professors are named 2017 fellows of the American Association for the Advancement of Science

The American Association for the Advancement of Science (AAAS) — the world's largest general scientific society and publisher of numerous prestigious journals, including Science — has named six UC Santa Barbara professors among its new fellows for 2017.

This year, 396 members have been so recognized for their scientifically or socially distinguished efforts to advance science or its applications. New fellows were presented with an official certificate and a gold and blue (representing science and engineering, respectively) rosette pin at the AAAS Annual Meeting in Austin, Texas.

The newly elected fellows from the Psychological and Brain Sciences are:

Diane Mackie, Ph.D. and Brenda Major, Ph.D.

Diane Mackie, Professor of Psychological and Brain Sciences, for distinguished contributions to the study of intergroup relations, especially the effects of moods and emotions and influences of other people and social groups.

Brenda Major, Professor of Psychological and Brain Sciences, for distinguished contributions to research on the effects of discrimination and stigma, the potential for psychological resilience and for her leadership within social psychology.

Article by Julie Cohen adapted from: http://www.news.ucsb.edu/2017/018530/good-fellows

Leda Cosmides Named One of Top Psychologists in the World

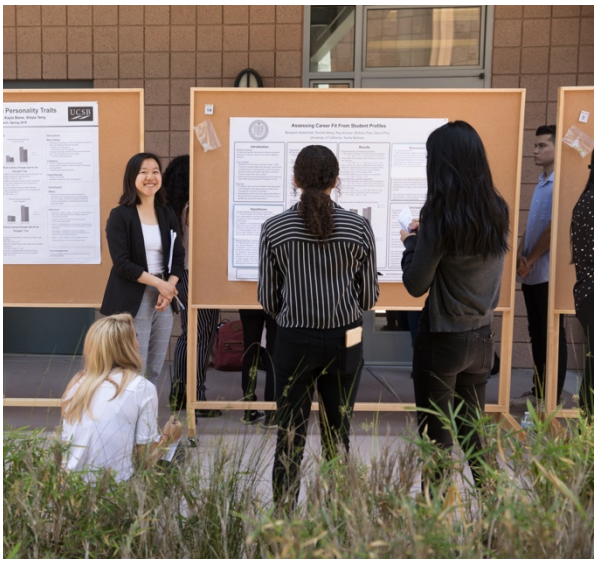
Cosmides was named **"One of the 50 Most Influential Living Psychologists in the World"** by thebestschools.org.

Cosmides is a Professor in the Department of Psychological and Brain Sciences. She co-founded the field of evolutionary psychology and co-directs the UCSB Center for Evolutionary Psychology. In 2005, Cosmides was awarded the prestigious Natonal Institutes of Health Pioneer Award. She was singled out for her "far-ranging ideas that hold the potential to make truly extraordinary contributions to many fields of research."

Leda Cosmides, Ph.D

Research Showcase

Undergraduate students in PSY120L show off the results of their independent research projects at a poster session for the Advanced Research Methods Laboratory.



Shedding Light on Brain Activity

UCSB is named a National Science Foundation Neurotechnology Hub for optical brain imaging

A multidisciplinary team of researchers, including UC Santa Barbara scientists **Michael Goard (Assistant Professor in PBS),** John Bowers and Luke Theogarajan, has been awarded $9 million from the National Science Foundation (NSF) to develop and widely share state-of-the-art optical brain-imaging techniques.

Michael Goard, Ph.D.

The group of neuroscientists, electrical engineers, molecular biologists, neurologists, bioengineers and physicists was recognized for its collaborative NEMONIC (NExt generation MultiphOton NeuroImaging Consortium) project, which pushes the boundaries of brain imaging.

"The limit to understanding the brain is no longer the ability to store, process and analyze data," said B.N. Queenan, associate director of the UCSB Brain Initiative. "The fundamental barrier is the ability to see the brain in action. As neuroscientists, we would love to watch brain cells going about their daily business. We want to record all the cells all the time, but that's just not possible with the existing technologies. Fundamentally, we need to invent new ways of seeing what brains are up to."

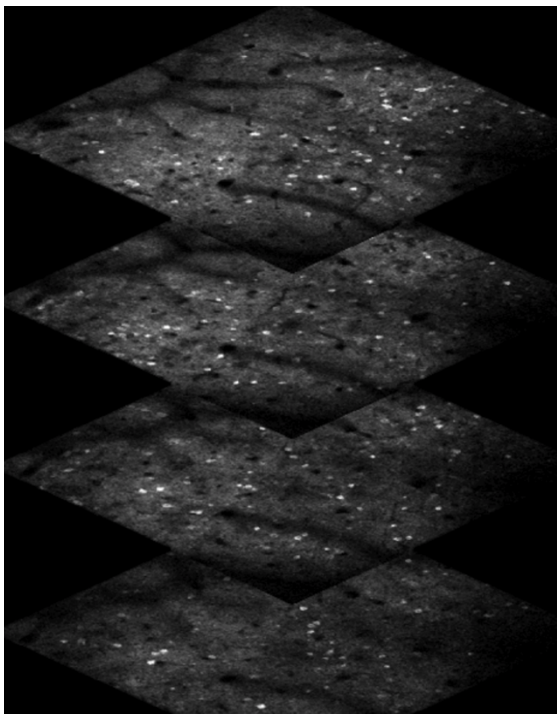
The NEMONIC group uses light to measure brain activity. The wavelengths of light that the human eye processes do not pass through brain tissue easily. Instead, they bounce off the surface of the brain, the skull or the skin and appear opaque, limiting the human ability to see internal brain activity. However, longer wavelengths of light can pass through brain tissue unobstructed. NEMONIC employs strategic combinations of these longer wavelengths to reach deeper into the brain and image the activity of cells that have been engineered to glow when stimulated.

"This is a team that can do anything in multiphoton neuroimaging," said NEMONIC team leader Spencer L. Smith, associate professor of cell biology and physiology at the University of North Carolina School of Medicine. **"The NEMONIC team has exactly the expertise to engineer new, robust optical solutions to the problem of imaging the brain."**

To remove the technological bottlenecks to understanding the mind and the brain, the federal government launched the BRAIN (Brain Research through Advancing Innovative Neurotechnologies) Initiative in 2013. As the name implies, the initiative is focused on developing new tools and strategies to image, map, diagnose, understand and repair the brain.

The NSF is one of the federal agencies leading the BRAIN Initiative. This year, the NSF gave 17 Next Generation Networks for Neuroscience (NeuroNex) awards to support the development of new experimental tools, theoretical frameworks and computational models that can be widely shared to advance neuroscience research. With this award, UCSB is now a designated NeuroNex Neurotechnology Hub, making it a critical part of the national neuroengineering network.

The three-part NEMONIC project first will develop new, streamlined multiphoton imaging approaches. Second, the team will widely share the newly engineered technologies and strategies to promote the free and productive acquisition and exchange of data across the international neuroscience community.



Large-scale imaging of the brain at cellular resolution. Courtesy of Goard Lab.

Lastly, the NEMONIC team will capitalize on UCSB's expertise in photonics and super-resolution techniques to push the boundaries of what is possible with optical neuroimaging. "Current methods of peering into the brain use bulky expensive lasers to generate the narrow femtosecond pulses needed for multiphoton imaging," said NEMONIC team member Theogarajan, a professor in the campus's Department of Electrical and Computer Engineering. "We are proposing a miniaturized multiphoton microscope based on cutting-edge photonic integrated circuits developed at UCSB, enabling live animal imaging and making multiphoton imaging cheaper."

"Bringing light and electronics together is what UCSB is known for," said Rod Alferness, dean of the UCSB College of Engineering. "UCSB is the west coast headquarters of the American Institute for Manufacturing Integrated Photonics (AIM Photonics), where we integrate light-based approaches with electronics to invent and manufacture new telecommunication technologies. We are thrilled that UCSB can now deploy its particular talents in integrated photonic technology toward the brain." Ψ

Article by Julie Cohen adapted from: http://www.news.ucsb.edu/2017/018265/shedding-light-brain-activity

Jim Blascovich Receives Innovator Award

Distinguished Professor Emeritus Jim Blascovich was awarded the 2017 Methodological Innovator Award by the Society for Social and Personality Psychology in recognition of his outstanding methodological contributions to the field. He shed new light on social and health psychology by combining cardiac measures with measures of thoracic resistance to probe the physiological basis of psychological phenomenon. Dr. Blascovich also pioneered the use of immersive virtual reality (VR) technology in social and personality psychology.

Jim Blascovich, Ph.D.

Mary Hegarty Awarded Raymond Nickerson Prize

Mary Hegarty, Ph.D.

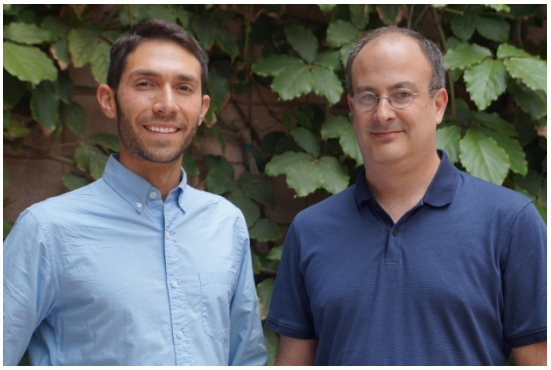
Professor Mary Hegarty was awarded the 2017 Raymond Nickerson prize for the best paper in Journal of Experimental Psychology: Applied. Graduate students Alex Boone and Trevor Barrett were co-authors on the paper.

Hegarty, M., Friedman, A., Boone, A. P., & Barrett, T. J. (2016). Where are you? The effect of uncertainty and its visual representation on location judgments in GPS-like displays. *Journal of Experimental Psychology: Applied*, 22(4), 381-392.

Jim Roney Honored With Margo Wilson Award

Professor Jim Roney and PBS graduate students Adar Eisenbruch and Rachel Grillot were honored with the 2017 Margo Wilson Award for the best paper published in Evolution and Human Behavior.

Eisenbruch, A. B., Grillot, R. L., Maestripieri, D., & Roney, J. R. (2016). Evidence of partner choice heuristics in a one-shot bargaining game. *Evolution and Human Behavior, 37,* 429-439.



Adar Eisenbruch, Ph.D. and Jim Roney, Ph.D.

Dream School

UCSB ranks among top five colleges and universities in the nation based on economic diversity, affordability and financial assistance

PBS undergraduates in PSY120L present their research at the 2018 Poster Day

In the third annual College Access Index published by The New York Times, **UC Santa Barbara is ranked No. 2 for its commitment to economic diversity.** The ranking is based on a combination of the number of lower- and middle-income students a college or university enrolls and the tuition it charges these students.

The University of California dominated the list, with only UC Irvine ranking higher than UCSB. UC Davis, UC San Diego and UCLA followed in the third through fifth spots, respectively. UC Berkeley came in at No. 9.

According to the Times, the index is based on the share of students receiving Pell grants; the graduation rate of students on Pell grants; and the net cost, after financial aid, that a college or university charged low- and middle-income students. The index, as the Times noted, "is a measure of which top institutions are doing the most to promote the American dream."

"States are making it much more difficult for their residents to get high-quality higher education," said Sandy Baum of the Urban Institute. "They are causing their institutions to charge more, to take more out of state students, to cut quality. That's very shortsighted."

"Financial aid is a crucial tool for students looking to attend college," an article associated with the ranking noted. "The schools listed in this report presumably recognize its importance by increasing its availability."

Article by Andrea Estrada adapted from: http://www.news.ucsb.edu/2017/018031/dream-school

Learn more: https://www.nytimes.com/interactive/2017/05/25/sunday-review/opinion-pell-table.html

Joe Jablonski Honored with 2018 Excellence Award

Joe Jablonski received the 2017-2018 Staff Citation of Excellence Award on May 15, 2018. Joe is an R&D Engineer at the Department of Psychological and Brain Sciences and has worked here since 1990. Joe is one of the longest tenured and most beloved members of the department staff and most deserving of this recognition, not just for his length of service but for the outstanding manner in which he has delivered that service. As those who work with Joe know, he is a remarkable person and ingenious problem-solver. His genuine warmth and willingness to go the extra mile to help literally anyone in need of his assistance – whether it be a fellow staff member, a member of the faculty or a graduate student -- has earned him the respect and admiration that he so richly deserves.

Joe Jablonski
R&D Engineer

Emily Jacobs Advocates for Women's Health Research

Assistant Professor Emily Jacobs joined fellow UC professors Michel Maharbiz (UC Berkeley) and Veronica Santos (UCLA) for a day in Washington on behalf of the Coalition for National Science Funding.

Jacobs met with the offices of Sen. Kamala Harris, Sen. Dianne Feinstein, Rep. Nancy Pelosi and Rep. Julia Brownley to advocate for sustained federal funding for women's health research. **"We must ensure that men and women get the full benefit of our research efforts",** says Jacobs.

Michel Maharbiz, Ph.D, Emily Jacobs, Ph.D, Veronica Santos, Ph.D

The Department Celebrates the 2018 Undergraduate Award Winners

Distinguished Graduating Senior

In recognition of academic and research excellence, service to the department, the university, and the community

Nicole Van-I Wyman Sun

The Morgan Award for Research Promise

For graduating seniors who demonstrate the most promise in the area of experimental research in psychology

Anjali Dixit & Amelia Strom

The Morgan Award for Academic Excellence

For graduating seniors in recognition of outstanding scholarship

Matthew Daly & Riley Austin Demos

Chairperson's Award

For students who have provided service to the Department

Oscar Alberto, Nicole Kludjian, Morgan Lee, Marissa Mahoney

Distinction in the Major

For students in the College of Letters & Science to recognize completion of a senior honors project or thesis

Mona Akhiary, Rea Brakaj, Tikal Catena, Jonathan Cloughesy, Jenalyssa Cruces, Matthew Casey Daly, Anjali Dixit, Kiyana Eshai, Alissa Gomez, Lefeba J Gougis III, Marissa Mahoney, William Mehring, Claire Noemer, Kasey Nicole Pankratz, Amelia Strom, Sharon Su, Julian Torres, Laura Ruelas Valencia

Exceptional Academic Performance

To graduating seniors who have achieved a 3.9 or higher GPA in upper division major coursework of at least 36 units

Oscar Jovany Alberto, Sarah Broad, Norma Brown, Caroline Callaghan, Hailey Jean Camozzi, Jonathan Cloughesy, Riley Demos, Kiyana Eshai, Rachel Freed, Ashley Jones, Tali Samantha Karu, Alina Kuznetsovski, Kelsey Martin, Madison Mead, Julia Mirande, Haley Paloutzian, Jeffrey Quezada, Sarina Rogers, Jingyue Yao, Keon Youssefzadeh

The Department Celebrates the 2018 PhD Student Award Winners

Richard E. Mayer Award for Outstanding Research in Psychology
Anne Milner

Charles G. McClintock Graduate Fellowship in Social Psychology
Kimin Eom and Phil Ehret

Graduate Division Dissertation Fellowship
Trevor Barrett, Kimin Eom, Amanda Kautzman

Graduate Opportunity Fellowship
Smaranda Lawrie

President's Dissertation Year Fellowship
Adam Klein

Outstanding Teaching Assistant Award
Lauren Winczewski

Brython Davis Fellowship
Phil Ehret

NSF Graduate Research Fellow
Lauren Ortosky

Fiona and Michael Goodchild Mentoring Award
Payton Small

Ph.D. Awardees
Michael Barlev, Rachel Grillot, Jessica LeClair, Kyle Ploense, Christina Shin, Erin Horowitz, Phillip Ehret, Kimin Eom, Megan Reed, Kathy Espino-Perez, Ariane Johnson, Adam Klein

Alumni Spotlight

Dan Fishbein, M.D. is a Physician (Internal Medicine/Infectious Diseases) and Epidemiologist, specializing in International Public Health

Bio Dr. Dan Fishbein graduated from UCSB in 1973 with a degree in Psychology and received his Doctor of Medicine from the Medical College of Wisconsin in Milwaukee. He trained in internal medicine at the University of New Mexico School of Medicine. Following his residency, he worked as a pediatrician at Khau I Dang Refugee camp on the Thai Cambodian Border (1980-1981). He returned to the University of New Mexico in 1981 where he completed a fellowship in Infectious Diseases. He joined the Centers for Disease Control and Prevention in 1983 as an Epidemiology Intelligence Service Officer in the Division of Viral Diseases where he focused on epidemiology, prevention and control of HIV, rabies, rickettsial diseases, and infectious diseases of unknown cause. He subsequently served as the Chief of the Epidemiology Section and acting Chief of the Viral and Rickettsial Zoonoses Branch, Division of Viral Disease, where he led the CDC's efforts on human and animal rabies control.

Dan Fishbein, M.D.

In 1991, he moved to the CDC's Division of International Health where he served first as the Coordinator of Scientific Studies and next as Associate Chief for Science, training and assisting young epidemiologists in 18 countries on designing, conducting, and reporting the results of public health investigations. In 2001, he joined the Health Services Research and Evaluation Branch in the Division of Vaccine Preventable Diseases where he coordinated studies on the introduction of new vaccines for adolescents and then served as an advisor for the Expanded Program on Immunization for the Federated States of Micronesia. In 2008, he moved to the Division of Global Migration and Quarantine as the Associate Chief for Science in the Quarantine and Border Health Services Branch.

He has delivered numerous presentations, both internally at the CDC, nationally, and internationally and authored or coauthored more than 150 peer reviewed scientific publications and review articles on HIV, rabies, rickettsial diseases, vaccine preventable diseases, tuberculosis, border health, and pandemic and seasonal influenza. In collaboration with his wife Cynthie Tin Oo, he designed a number of projects in Burma/Myanmar, working for UNICEF, Save the Children, British Council, and

Pyi Gi Khin, a local NGO. Most recently, in conjunction with his Myanmar Research International colleagues he led the first national meeting on cervical cancer prevention and control in Burma/Myanmar. In Santa Barbara, he has led a group developing electronic database and evaluations of health care programs conducted by Doctors Without Walls/Santa Barbara Street Medicine.

Q&A *What inspired you to become a psychology major at UCSB?*

I was wandering from major to major trying to find a profession that I could apply to the existential questions of the day. I became interested in science because it could provide answers to some of these questions. In the Psychology Department, even as an undergraduate, I was encouraged to test questions that interested me. The Department provided me an opportunity to become a scientist.

What do you think psychological scientists could learn from the sciences of public health and epidemiology?

Making work (and lifestyle) relevant to planetary health (that of humans and Earth's natural systems (https://www.rockefellerfoundation.org/our-work/initiatives/planetary-health/)). (I don't claim that public health or epidemiologists do this any better than anyone else, but at least we understand big denominators!).

Work on defining the place of traditional, complementary and alternative health care in the world. Since returning to Santa Barbara, I have been studying the psychological and medical basis for the yoga's popularity, both as a researcher and practitioner even though its historical basis and medical utility is doubted (https://www.uptodate.com/contents/overview-of-yoga).

How does psychology influence your work?

If we could apply psychology effectively, it would be one of the most important aspects of public health work because it would allow us to develop ways to implement tools that other sciences have developed. So we struggle to understand basic questions such as why so many Americans reject science (https://www.ted.com/talks/michael_specter_the_danger_of_science_denial). One of my current favorite questions is why bicyclists never wear helmets even though they are mandated to do so by law until they are 16? Did we miss something?

Do you have any advice for Gaucho psychology majors and recent graduates?

Don't get stuck in "silos" (http://www.phf.org/resourcestools/Documents/silossystems.pdf) where the only realities you need to address are those of like-minded colleagues. Seek out people and ideas that you disagree with and try to understand them. Ψ

PhD Spotlight

Social Psychology doctoral students **Kimin Eom** and **Phillip Ehret** were awarded the 2018 Charles McClintock Award. The McCintock Award is given to a senior graduate student for excellence in scholarship, education, and service.

Kimin Eom is a recipient of the Fulbright Fellowship, Graduate Dissertation Fellowship and Tobin Project Award. He received the Sustainability Psychology Preconference Student Data Blitz Award in 2017 and has published a paper in *Psychological Science* that was a featured in an article in *Nature Climate Change.* He is an excellent teacher and teaching assistant, going above and beyond what is expected of him as a TA both in helping the instructor and in offering additional time and effort to help students. After graduating in June 2018, Kimin will begin a position as an assistant professor at Singapore Management University.

Phil Ehret is a recipient of the NSF Graduate Research Fellowship as well as other fellowships (CrossRoads, Brython Davis Graduate Fellowship). One of his papers that was published in *Social Psychological and Personality Science* received the 2018 Division 34 (Environmental Psychology) Graduate Student Research Award. He is a terrific mentor, winning the UCSB Goodchild Graduate Mentoring Award. After graduating in June 2018, Phil will begin a postdoctoral fellowship in social psychology at the University of Southern California.

Research In Action

Undergraduate students gain hands-on research experience in faculty laboratories

Prof. Dan Conroy-Beam (middle), graduate student **Katy Walter** (left), and undergraduate PBS honors thesis student **Claire Noemer** (right) discuss the results of a new computer simulation of mate choice. The Conroy-Beam Lab uses an evolutionary perspective to understand how mate preferences are linked to actual mating outcomes.

Riley Koepsell (far right), PBS major Class of '17 and now lab manager of the Liberman child development lab, tests an infant's reaching ability so she can determine where to place study materials. The Liberman lab studies infants and children in order to understand the origins of human beliefs and behaviors.

PhD Spotlight

Neuroscience and Behavior doctoral student **Chelsea Brown** was awarded the 2018 Harry J. Carlisle Award in honor of her excellence in research, teaching, and service.

Chelsea Brown was awarded the 2018 Harry J. Carlisle Award in recognition of her exceptional accomplishments as a graduate student in the Neuroscience and Behavior Training Program. Chelsea has received numerous awards throughout her graduate training, include the Richard E. Mayer Award for Outstanding Research Contribution, and travel awards from the Neuroscience Research Institute at UCSB, the International Behavioural Neuroscience Society, and the New York Academy of Sciences. Chelsea is a behavioral neuroscientists whose research focuses on the neurobiological basis of the acquisition and expression of methamphetamine addiction-related behaviors. When Chelsea joined the Szumlinski Laboratory she had no prior experience working with animals in a research or teaching setting. Impressively, Chelsea quickly mastered all of the experimental procedures required of her dissertation work. A portion of her early data is summarized in a new publication that was recognized by the Editor as being "among the most highly cited original articles we've recently published in *Biological Psychiatry*".

In addition to her scholarly achievements, Chelsea has mentored and trained a large number of undergraduates in the laboratory, many of whom have matriculated to pursue graduate or professional medical degrees. She was instrumental in training the graduate student Teaching Assistants for Psychology 111L and has continuously served as a judicious Teaching Assistant in upper division didactic courses. Chelsea is an outstanding team-player, both inside and outside of the laboratory. She is an active member of the UCSB Brainiacs Elementary School Outreach program, and this year she organized and managed several exhibits independently. She served on the Graduate Affairs Committee, the Department Excecutive Committee, is a PBS Graduate Mentor, and an active participant in the UCSB Beyond Academia program.

Congratulations, Ph.D. Class of 2018!

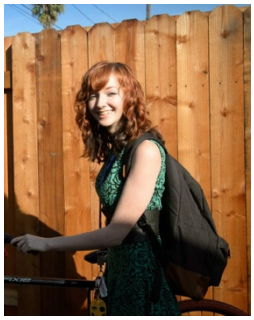
Psychological and Brain Sciences (PBS) and Dynamical Neuroscience (DYNS) Ph.D. Graduates Nicole Marinsek (DYNS); Arturo Deza (DYNS); Erin Horowitz (PBS); Kimin Eom (PBS); Megan Reed (PBS); Phillip Ehret (PBS); Kathy Espino-Perez (PBS); Adam Klein (PBS)

Class Notes

Learn how PBS Alumni are Giving Back

UCSB Biopsychology 2013 Alumnus **VIRA FOMENKO** is currently finishing medical school at UC Irvine and will be starting her residency in family medicine this summer! Vira completed her senior thesis in Dr. Ettenberg's Behavioral Pharmacology Lab studying cocaine addiction in animal models and also worked as a teaching assistant to educate younger students about drugs of abuse. While at UCSB, she enjoyed giving back to the community by volunteering with Santa Barbara Street Medicine, and now continues to volunteer in free clinics and soup kitchens in Orange County.

After graduating with Highest Honors and Distinction in the Major from UCSB in 2015, **NICK NEWTON** continued his education and recently completed his Master of Arts in Human Sexuality Studies from SF State University in 2017. At UCSB, he was a research assistant in Dr. Nancy Collins' Close Relationship Lab and Dr. Jim Blascovich's Research Center for Virtual Environments. Outside the classroom, Nick worked as an Academic Peer Adviser for the UCSB College of Letters and Science and a Course Grader for the well-known "Sociology of Human Sexuality" course with Dr. John and Janice Baldwin. He currently works for a health-tech start-up in San Francisco and continues his advocacy work for his local LGBTQ community.



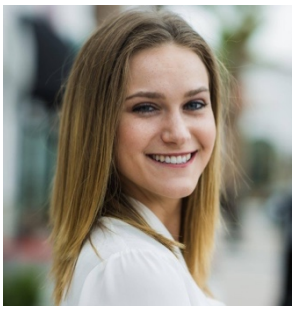
Department of Psychological & Brain Sciences 2016 Alumnus **CATHERINE ENDERS** is finishing her MPH in Epidemiology and Biostatistics at UC Berkeley this May. During her time at UCSB, she conducted research in sustainability psychology and on public perceptions of the health risks of hydraulic fracturing, and she gave back to the community by mentoring freshman honors students and volunteering for Isla Vista's Adopt-a-Block. Grateful for the mentorship she received at UCSB, Catherine went on to mentor underrepresented undergraduate students on their senior research projects at UC Berkeley.

MARCUS VICARI (2017 Alumnus and winner of UCSB's prestigious Frances Colville and Terry Dearborn Memorial Award) is currently working as a clinical research coordinator in a rheumatology practice in Los Angeles, where he explores how the mind affects the experience of pain. One of his studies explores whether virtual reality can help lower the need for pain and anxiety medications. Marcus also works for Kaplan Test Prep, where he helps prepare pre-medical students for taking the MCAT. To serve in the field he aspires to go into, Marcus also volunteers his time with a psychiatrist at the VA, where he has helped design research that addresses the newly acknowledged psychological condition of moral injury, as well as helped write a chapter on addressing psychiatric conditions through lifestyle. At the end of summer, Marcus will begin medical school. He currently holds acceptances at Yale, Univ. of Michigan, and UPenn, with more announcements on the way.

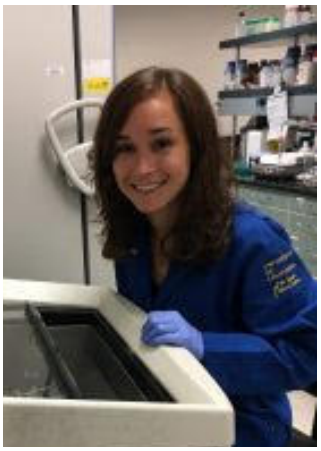
UCSB Psychology Class of 2011 Alumnus **PAUL HERZLICH** has been working at Google since 2011. Paul works on an operations team within Google's Legal department, and loving it. In terms of public service, he has been a liaison to UCP Wheels for Humanity, a nonprofit organization aiming to increase the number of people with access to appropriate wheelchairs worldwide, particularly in developing countries. Google recently gave them a $1MM grant, so Paul has been working with this awesome opportunity to get involved and help Google push their project forward.

Psychology Alumnae **DAIRINE PEARSON**, the Class of 2008 Distinguished Graduating Senior gives back through her work as Bereavement Counselor and Licensed Clinical Social Worker at Visiting Nurse & Hospice Care of Santa Barbara, running to support the Gwendolyn Strong Foundation, and giving an annual guest lecture in Psych 101 Health Psychology on bereavement and end of life issues. #GauchosGiveBack

MAIRA AREGUIN graduated UCSB in 2014 with a degree in Psychology and Chicana Studies. Her undergraduate research informed her masters thesis project at CSUN on how Latinx farm workers experience discrimination. Currently, she is a first year doctoral student in the joint Psychology and Women's Studies program at the University of Michigan where she continues to ask how psychological research can shed light on the ways Latinx individuals experience discrimination in workplace settings.



Psychology Alumnae **SOPHIA LITSEY**, the Class of 2015 Distinguished Graduating Senior gives back through her work in Human Resources at HM Electronics, Inc. (HME) in Carlsbad, CA. She coordinates the organization's health & wellness program, "Power Up" for 800 employees around the world, in addition to "HME Cares", the corporate community service program. Sophia works with The American Heart Association in her role at HME to improve the health and wellbeing of her employees and neighbors in the community.



RIANNE CAMPBELL is a 2014 Department of Psychological and Brain Sciences alumnus who is now pursuing her Ph.D. in Neurobiology and Behavior at University of California, Irvine. At UCSB, Rianne was an undergraduate researcher and then research technician in Dr. Szumlinski's laboratory, where she worked on research projects focused on understanding how exposure to drugs of abuse induce adaptations to the glutamatergic system that underlie drug-seeking behaviors. Now as a graduate student in the Wood lab, Rianne's research focuses on elucidating epigenetic mechanisms that contribute to the formation of cocaine-seeking. Alongside her research, Rianne participates in the Center for Neurobiology of Learning and Memory's Ambassador program, which is dedicated to educating the public about neuroscience and memory through outreach events. In addition, she is a media coordinator for UCI's Brews and Brains, an student-led science communication organization.

We would love to hear from you! Contribute Classnotes by emailing InsidePsychology@psych.ucsb.edu

Thank You

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Vice Chairman, Oracle Corporation

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