

boundaryless

UCI School of Social Sciences

boundaryless
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UCI School of Social Sciences

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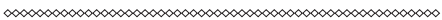
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LETTER FROM THE DEAN



bill maurer

Boundaryless.

Google the term – coined by former GE CEO Jack Welch – and you’ll learn that it’s most often applied in business to explain an organization that throws caution to the wind, scrapping boundaries and bureaucracies in order to tap the internal power of its people to directly enact change.

For the past 50 years, the School of Social Sciences has been putting this approach into practice, breaking down traditional barriers to create change in society, economies and human well-being. But never has this boundaryless-mindset been more important than today.

The 21st century has brought on profound and previously unthinkable social change. We live longer and face new social, economic and health challenges brought on by an

aging population. Political, ethical and environmental challenges are marked by ever-increasing uncertainty and, paradoxically, the easy availability of more and more data about us.

These challenges know no boundaries – they stop at no border and they aren’t limited to one discipline.

That’s why social scientists at the University of California, Irvine are facing them head on, together.

Our students, who comprise nearly 20 percent of the entire UCI student body, are in the conflict zones of the Middle East and teaching global awareness in Orange County high schools. They are in our groundbreaking behavioral economics labs, testing new methods to reduce traffic congestion, create better online marketplaces and prevent the spread of disease. They are in our brain, behavior,

and cognitive robotics labs – mapping the structure of the human brain to understand how speech works in order to help restore it in victims of stroke, and building interactive robots aimed at improving social engagement in children with ADHD and autism. Our students are doing fieldwork in India, Africa, China – indeed, everywhere on the planet, exploring fundamental issues of peace, politics, population, migration and cross-cultural communication.

Our faculty are breaking with convention to forge connections with computer science, engineering, the arts and the humanities. Interdisciplinary work with law, medicine and environmental science helps our researchers educate policy makers on the social, cultural and psychological factors impacting regulation and policy adoption, health and human behavior.

Our alumni – numbering more than 45,000 strong – are taking their world-class education from our Irvine classrooms to the halls of justice in D.C. and international relations work in capitals around the world, to entrepreneurial endeavors from Northgate to Northern Africa, to courtrooms across the nation, boardrooms in some of the world’s top companies, and classrooms around the globe where they’re training our next generation of leaders.

And we’re just getting started.

Learn more within these pages about pioneering work being done by UCI social scientists like Jennifer Kane, who’s tackling the complicated biological and social issue of pre-natal health; Ramesh Srinivasan, who’s developing a noninvasive, cheaper and more accurate method for

We’re seeking your support as we push the limits in neuroscience, population science and emerging conflict research, because solutions to some of society’s greatest challenges lie in our ability to break the mold, to be boundaryless.

Our maverick spirit and openness to new approaches and unexpected collaborations has kept us nimble and at the cutting-edge in a number of fields as different as transportation economics, cultural anthropology, the philosophy of physics and biology, and the sociology of mass movements.

Our world-class professors in our seven top-ranking departments are experts in their fields, consistently sought by national media to provide perspective on innovative discoveries and pressing social problems. Our faculty are teaching courses within the most popular majors on campus and leading more students to successful graduation than any other academic unit at UCI.

mapping brain regions related to epileptic seizures and autism; and Wang Feng, whose years of research and activism detailing the ramifications of China’s one-child policy helped bring about change from the world’s largest nation.

We’re seeking your support as we push the limits in neuroscience, population science and emerging conflict research, because solutions to some of society’s greatest challenges lie in our ability to break the mold, to be boundaryless.

Join us in our pursuit.

Bill Maurer, Dean
UCI School of Social Sciences

POPULATION

HEALTH, STEREOTYPES, AGE,
POLITICS, INCARCERATION

There are more than 7 billion people on this planet, and while territorial boundaries matter, pressing issues like health, education and poverty aren't contained within thinly drawn lines on a map. They cross races, religions, economies and political systems, spanning the human life cycle and going generations deep.

The UCI School of Social Sciences is home to some of the world's leading experts – and some of the brightest up and coming minds – on these topics, and the following examples highlight a few of their most current studies. With your support for our Population Initiative, we'll continue to push the boundaries of research on issues that touch every single one of the world's 7 billion.





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Low-birth-weight babies are more susceptible to later physical and cognitive difficulties, and these difficulties can sharpen the social divide in the U.S.

PRE-NATAL HEALTH

Woman's health, education & marital status pre-pregnancy affect birth weight of her daughters, granddaughters

We've known that pre-natal health of a mother is crucial to delivery of a thriving newborn, but new research by sociologist Jennifer B. Kane really puts that pre-natal timeline into perspective. Her work is the first to tie low natal weight to biological and social factors three generations deep.

"Low-birth-weight babies are more susceptible to later physical and cognitive difficulties, and these difficulties can sharpen the social divide in the U.S.," Kane says. "But knowing more about what causes low birth weight can help alleviate the intergenerational perpetuation of social inequality through poor infant health."

In total, she's looked at 1,580 mother-daughter pairs, focusing on their weight at birth, marital status and education level.

"The odds of having a low-birth-weight baby are one and a half to two times greater for mothers who themselves were born low birth weight compared to mothers who were not born low birth weight," she says. "But also important are social factors, including education and marital status. Putting all of these factors – both intergenerational and intragenerational – together in a single model can tell us even more."

For example, education level pre-pregnancy can be transmitted from mothers to daughters across at least three generations, according to Kane. And, this intergenerational transmission appears to affect birth weight of future generations.

"Knowing that biological factors perpetuate the cycle – being a low-birth-weight baby makes a woman more susceptible to delivering the same – we start to see that we can't look at these two factors separately," she says.

This means that causes of low birth weight extend much further back than the time frame that's typically focused on: pregnancy. Kane's work shows that key factors can be traced to the mother's own early life experiences, in addition to factors dating back multiple generations.

"This really makes a difference in how we think about planning future population-level policies or programs that intend to reduce social inequalities in birth weight," she says.

Kane's research has been featured by media around the world in *Medical News Today*, *Science World Report*, *The Sacramento Bee*, and *The South Asian Times*, to name a few.



David Neumark received a \$1.3 million grant from the Laura and John Arnold Foundation in 2015 to launch and lead the Economic Self-Sufficiency Policy Research Institute (ESSPRI), which focuses on the long-term effectiveness of poverty alleviation programs in the U.S.

AGE IN THE WORKPLACE

Economist David Neumark finds age - and gender - discrimination in the workplace

A healthier aging population means many Americans are working past birthdays at which most have typically retired. At the same time, says UCI Chancellor's Professor David Neumark, age discrimination appears to be playing a role in reducing their employment opportunities.

His research, which has found evidence of negative stereotyping, lay-

offs among higher-paid older workers, and bias in hiring practices - particularly among older women - makes a compelling case that employment barriers do exist for older workers.

He offers as potential solutions stronger anti-discrimination policies than current federal law, such as in states like California which extends discrimination protections to workers in smaller firms and allows larger

damages in age discrimination lawsuits.

He's consistently sought for his expertise on labor economics. His work appears regularly in *The New York Times*, *LA Times*, *Forbes*, *CNN*, and *Time Magazine*, to name a few. He's also provided expert testimony before Congress on the topic.

featured:
CALIFORNIA CENSUS
RESEARCH DATA CENTER



*New UCI-based center gives researchers
direct link to U.S. census data*

UCI is home to one of the nation's newest of 20 U.S. Census Research Data Centers. Established through a partnership between the School of Social Sciences and the U.S. Census Bureau, the campus site allows UCI researchers unprecedented local access to administrative and survey data. Information available includes non-public census records as well as data sets from the National Center for Health Statistics, the Agency for Healthcare Research & Quality and others. With this data, researchers can explore the policy environment within a detailed geographic area and connect that to micro-level data on public health, transportation, labor, crime, education and more. The result will be better studies addressing highly relevant public issues such as the impact of crime on local businesses, how policy changes affect health and well-being among different populations and regions, and how educational attainment influences community and national earnings.



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The biggest predictor of a child’s success is parental education. If your parents are college-educated, the likelihood of you going to college and graduating is very high.



MINORITY STEREOTYPES
Declawing the ‘tiger mom’

When Yale Law professor Amy Chua penned the *Battle Hymn of the Tiger Mother* in 2011, she set off a firestorm debate about the supposed superiority of Asian parenting. The Tiger Mom’s style of punishing and shaming her children into success perpetuated the prevailing model minority stereotype of Asian American achievement in the U.S., and UCI sociology professor Jennifer Lee says, “it just isn’t true.”

“The biggest predictor of a child’s success is parental education,” Lee says. “If your parents are college-educated, the likelihood of you going to college and graduating is very high.”

In her new book, *The Asian American Achievement Paradox*, Lee debunks the idea that Asian American academic achievement is due to unique cultural traits or values. Instead, she explains that there are very specific immigration patterns, institutions and social psychological factors that foster high academic achievement among certain Asian American groups.

“The change in U.S. immigration law in 1965 was critical, because it ushered in a new stream of immigrants from Asia who are hyperselected – meaning that they’re more highly educated than their compatriots and also more highly educated than the general U.S. population,” she says. The hyperselectivity of Chinese immigrants in the U.S. means their children begin their quest for success from more favorable “starting points” than do children of other immigrant groups, such as Mexicans, or native-born groups, including whites, she says.

Chances are, you’ve seen her work on *CNN*, read about her in *The Washington Post*, *The Economist* or *The New York Times*, or heard her on *NPR* – or the more than 50 other media outlets her work has been featured in. The book was one of several key highlights in a banner year for Lee who was also elected to the Sociological Research Association, named chair-elect of the American Sociological Association’s section on International Migration, and named deputy editor of the *American Sociological Review*.

POLITICS AND POLLS

Poli sci prof parses polling data to explain political positions and platforms

If you follow politics and are an avid *Washington Post* reader, you've likely seen Michael Tesler's name in at least a few bylines. An assistant professor in political science at UCI, he's a frequent op-ed contributor on hot topics in politics and elections including race, immigration, partisanship, and the issue of marijuana legalization.

In a November 2015 article he penned for *The Washington Post*, Tesler broke down Trump's surge in support among the conservative base using newly available data, crediting the

real estate tycoon's stance on immigration for the boost.

Throughout the year, he's provided perspective on topics ranging from President Obama's use of the n-word following racial violence in Charleston, to Republican candidates' expressed anti-Muslim beliefs and strikingly dissimilar worldviews on race among Democrats and Republicans.

Tesler joined the UCI faculty in 2014 after spending three years in an assistant professorship at Brown University.





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Parental incarceration is significantly related to learning disabilities, attention deficit hyperactivity disorder (ADHD), behavioral or conduct problems, developmental delays, and speech or language problems.

KIDS AND INCARCERATION

UCI sociologist finds parental incarceration more detrimental to kids' health than divorce or death of mother, father

The U.S. has the highest incarceration rate in the world, with more than 2 million people currently behind bars.

How this affects their families is the focus of sociologist Kristin Turney's work. She's found significant health and behavioral problems in children of incarcerated parents, and in some cases, parental incarceration can be more detrimental to a child's well-being than divorce or the death of a parent.

"We know that poor people and racial minorities are incarcerated at higher rates than the rest of the population, and incarceration further hinders the health and development of children who are already experiencing significant challenges," she says.

Parental incarceration is significantly related to learning disabilities, attention deficit hyperactivity disorder (ADHD), behavioral or conduct problems, developmental delays, and speech or language problems, according to Turney. When comparing children with similar demographic, socioeconomic and familial characteristics, she found that having a parent in jail was linked to a greater incidence of asthma, obesity, ADHD, depression and anxiety. Compared to divorce, parental incarceration is more strongly associated with both ADHD and

behavioral problems; compared to the death of a parent, it's more strongly associated with ADHD.

"Children's health disadvantages are an overlooked and unintended consequence of mass incarceration," Turney says. "Incarceration, given its unequal distribution across the population, may have implications for racial and social class inequalities in children's health."

It's becoming such a pervasive issue that "Sesame Street" recently introduced a Muppet named Alex, whose father is in jail, as a way to address the stigma. About 2.6 million children in the U.S. have a parent in jail or prison at any given time, she says.

The chance of having an incarcerated parent is especially high in certain groups.

"Among black children with fathers without a high school diploma, about 50 percent will experience parental incarceration by age 14, compared with 7 percent of white children with similarly educated fathers," Turney says.

Turney's recent work on the topic appears in the *Journal of Health & Social Behavior*, a publication of the American Sociological Association.

NEUROSCIENCE

UNDERSTANDING THE BRAIN - LOVE, VISION, SPEECH, INTERACTION

Imagine. A world without Alzheimer's. A world without Parkinson's. The demise of cancer. Advances in brain and behavior research are allowing us to study these disorders and diseases in real time, and to push this work further, we're taking a boundaryless approach. UCI's world-renowned social scientists are conducting cognitive neuroscience research with experts in engineering, computer science and health to help us understand the brain's inner workings and its relationship to behavior. They are also building and experimenting with new technologies and advances in data analysis that will drive future neuro-imaging research. Designing next-generation machines, computers that work and think like the human brain, computational models of psychological processes, and ways to study the brain's function and structure in action opens up vast territories for future research.

The following examples highlight how the study of brain and behavior - central to the social scientific enterprise - is helping us understand this most crucial part of what it is to be human. With your support for our Neuroscience Initiative, we'll continue charting new courses for the understanding of communication disorders, diseases, and other brain conditions that impact our lives, loved-ones and communities. With your help, we'll face them head on.





THE BRAIN AND STROKE

Cognitive scientist Greg Hickok studies what happens when words fail

It can be heart-wrenching to watch a loved one struggle to verbally express him- or herself after suffering stroke-induced brain damage.

Known as conduction aphasia, the disorder produces lesions that interfere with the neurological process of translating thought into speech, according to UCI cognitive neuroscientist Greg Hickok. The interference is believed to occur in the Sylvian fissure dividing the brain's parietal and temporal lobes. The same region, he says, could help explain why some people stutter and how schizophrenics can misinterpret their internal thoughts as external voices.

To date, Hickok has received more than \$12 million in funding from the National Institutes of Health to support 15 years of continued research on how neural abnormalities affect speech and language in an area of the brain tied to autism, schizophrenia and stroke-induced aphasia.

"The act of speech involves coordination between auditory and motor functions in the brain," Hickok says. "This is obvious in visuomotor tasks like reaching for a cup, where we use visual information about its shape and location to guide our reach. It's less obvious in language, but studies have shown that in the same way, a word's sound guides our speech."

The director of UCI's Center for Language Science, Hickok first began seeing this in action at a neural level when utilizing fMRI to study brain processes related to speech production. He noticed that, in addition to the expected motor regions, auditory areas of the brain "lit up," or activated, when participants named pictures – even if they only thought about, and didn't actually vocalize, the words.

"Stroke-based research found that these activations reflected the critical involvement of auditory areas in speaking. When these regions are damaged, patients tend to struggle to come up with words, and when they do speak, they make a lot of errors," says Hickok.

He has since been using fMRI and stroke-based methods

to zero in on the Sylvian parietal-temporal (SPT) region of the brain, in which he believes the regulation of auditory and motor processes occurs.

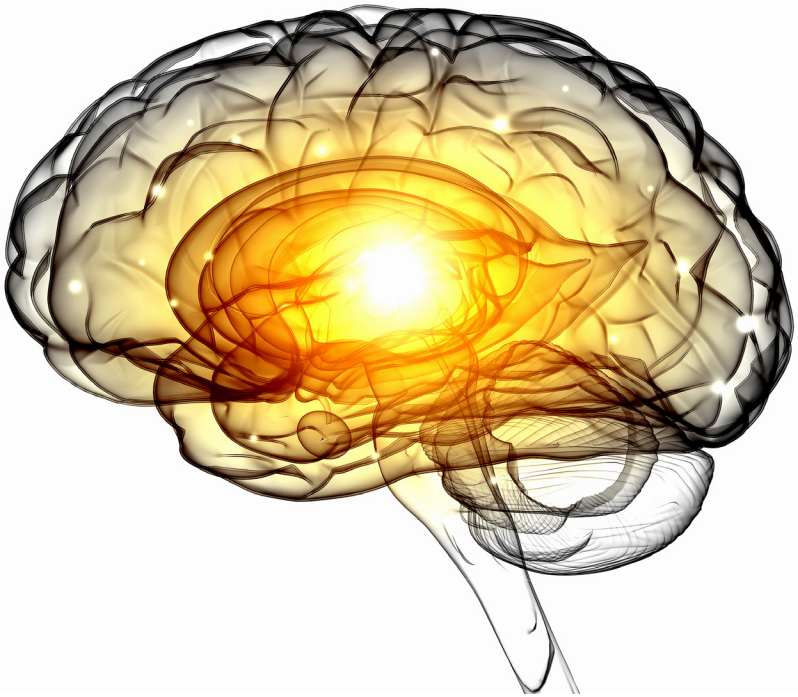
"In people with schizophrenia or aphasia and those who stutter, the coordination between perception and production is dysfunctional, and it appears to be happening in the SPT region," Hickok says. "Depending on exactly how the process misfires, the result can be speech errors, stuttering or auditory hallucinations."

While Hickok explains that it's generally accepted in the cognitive neuroscience community that auditory and motor functions work together, the details are not well understood. He is currently working to close this knowledge gap.

His findings have been published in journals such as *Neuron*, *Cognition*, the *Journal of Cognitive Neuroscience*, the *Journal of Neuroscience*, and others. He has also created a multi-university consortium for this type of research. Hickok's hope is that by conducting studies and sharing findings, he and others will contribute to the development of better therapies for people with brain damage, lesions or neural abnormalities.

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The act of speech involves coordination between auditory and motor functions in the brain ... a word's sound guides our speech.





THE BRAIN AND LOVE

UCI cognitive scientist studies the role of love – and the brain – in human happiness

All you need is love. **A**It turns out that the Beatles may have been on to something. When it comes to factors that make up human happiness, researchers at UCI believe that feeling loved tops the list.

“Receiving a smile, spending time with friends, encountering someone who seems happy to see you – seemingly simple acts can trigger a very powerful emotion that is key to our happiness,” says Joachim Vandekerckhove, UCI cognitive sciences assistant professor.

He’s co-leading a research team that is systematically investigating the how, what and why behind feelings of love. It’s challenging, Vandekerckhove says, because cues that trigger the emotion can elicit different responses in different people. What makes one person feel loved at one point may not have the same effect down the road, and individuals may feel it differently.

The degree of subjectivity makes the topic hard to probe – but that’s exactly what piqued their team’s interest. He and others from UCI and The Pennsylvania State University received \$540,000 from the John Templeton Foundation to explore what makes people happy over the long haul, using felt love as one of their primary measures.

“The way we look at love is as a mode of communication, with a sender, a medium and a receiver,” Vandekerckhove explains. “While research exists on expressions of love, we are primarily interested in the receiver’s ability to detect, understand and know that they are loved.”

“We enjoy the challenge of trying to measure such an intangible subject,” says Zita Oravecz, assistant professor of human development & family studies at Penn State, who is co-leading the project. Rounding out the team are William Batchelder, professor of cognitive sciences at UCI, and Sarah Pressman, associate professor of psychology & social behavior at UCI.

To understand how people feel love, the group is developing tailored ecological momentary assessment tools – think super-quick, one- to two-minute surveys on smartphones and tablets – that ping participants throughout the day to record their emotions.

“This allows us to quickly capture participants’ feelings at different points over an extended period of time, as opposed to traditional measures that

ask how someone is feeling at one point,” Oravecz says.

The longitudinal approach will let researchers collect data that’s less sensitive to transient moods and focus on patterns over time.

The responses will be run through multidimensional mathematical models of temporal dynamics in an attempt to determine what makes people flourish and how love factors in.

Previous research has shown that the impact of love is reduced if the target is unreceptive due to individual differences that alter the perception/interpretation of the message – he or she is not feeling the love that someone else may be communicating.

“For example, people who have low self-esteem or are dysphoric might be cognitively unreceptive and not perceive or interpret messages of love the same as others – not due to unwillingness in the cognitive processing but to a potentially resolvable inability,” Vandekerckhove says.

The result? Their well-being isn’t what it could be.

The UCI-Penn State team’s goal is to better understand changes in well-being over time, what factors make up felt love, and how future research might be directed at positive psychological interventions – strategies that could help more people literally feel the love.



THE BRAIN AND EPILEPSY

UCI researchers are developing a noninvasive, cheaper and more accurate method for mapping brain regions related to epileptic seizures, autism

Pre-surgical teams may soon have a more reliable, cost effective and noninvasive way to help pinpoint areas in a patient's brain causing epileptic seizures.

A new method for magnetoencephalography (MEG), developed by UCI professors, will allow researchers to measure brain activity at a millimeter scale with millisecond temporal resolution. The technique also has applications in noninvasive mapping of brain function and brain connectivity in disorders such as autism.

"Measuring the magnetic field of the brain using MEG is potentially the best approach for accurately mapping brain activity because it has very high temporal resolution and can be used to localize brain activity through magnetic source imaging," says Ramesh Srinivasan, UCI cognitive sciences and biomedical engineering professor.

However, current MEG technology uses expensive coils that must be kept at absolute zero temperature; as a consequence, there's a more than three-centimeter-thick layer of

insulation between the scalp and sensor.

The impact of this distance, says Srinivasan, is weaker signals from the brain and reduced spatial resolution. The equipment costs are also in the millions of dollars, and the liquid helium cooling systems are expensive to maintain.

Working together with Jing Xia, astronomy and physics associate professor, Srinivasan is developing a method to measure MEG using sensors at room temperature that are

placed directly against the scalp. They will adapt Sagnac interferometer technology developed by Xia for magnetic field measurements in physics application. The Sagnac interferometer uses laser-charged, pure atomic vapor as a sensing media that will measure the brain's magnetic field.

The laser aligns all of the atomic spins; if there's no magnetic field, they'll spin in one particular direction. If a magnetic field is imposed on it, the spins of the atoms are modified which can be detected by the interaction of the atomic media with a probe laser.

"We estimate that the cost of the Sagnac MEG will be one-tenth the cost of a conventional MEG machine, with five times higher spatial resolution and 10 times higher sensitivity," Srinivasan says. "This will potentially allow

for recording from deep brain structures."

The technology has immediate impacts in pre-surgical mapping by clinicians and numerous possibilities in basic and clinical research on disorders including autism and epilepsy.

"In epilepsy research, the new equipment and procedure would provide useful information on where seizures are occurring without a doctor opening a patient's skull, potentially reducing the need for extensive intracranial mapping," Srinivasan says.

He and Xia are affiliated with UCI's Center for Autism Research and Translation, which provided seed funding for this research. One of their long-term goals is to apply MEG for noninvasive brain mapping of connectivity

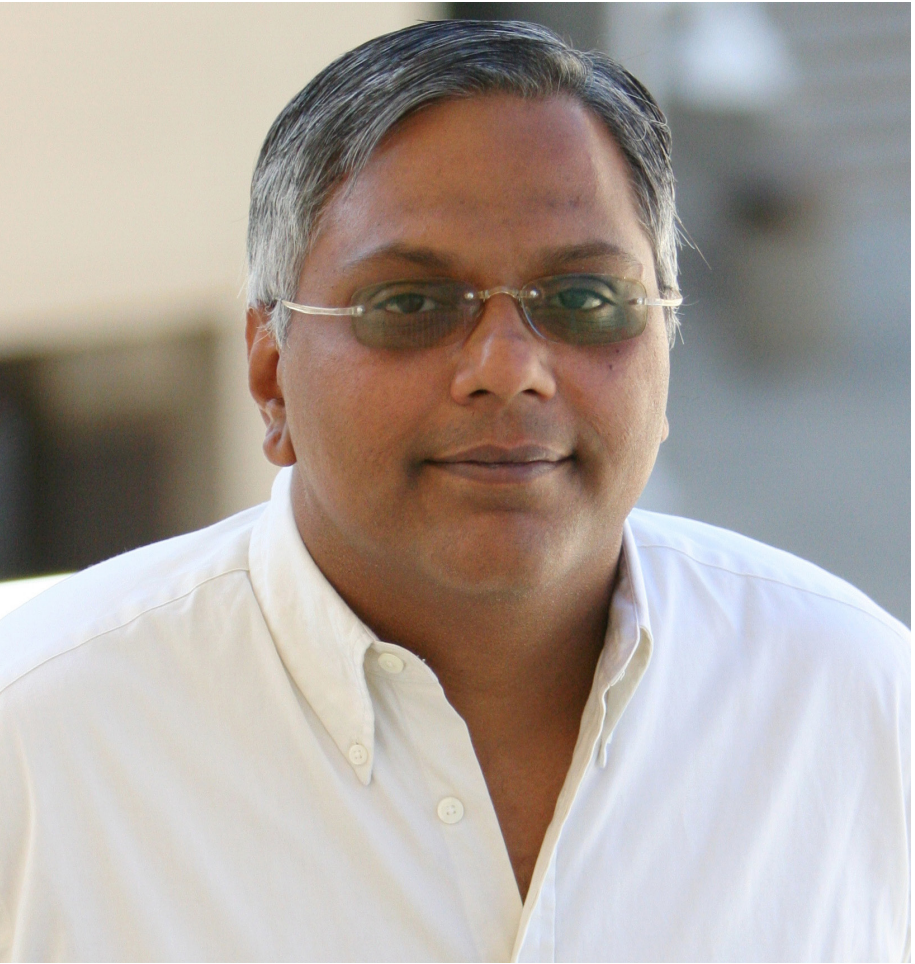
in autistic patients.

"One of the most reliable markers of autism is changes in connectivity measured using EEG," Srinivasan says. "Professor Xia and I would like to perform this research with our new MEG technology to improve the specificity of brain areas showing changes in connectivity."

The scientists have received \$367,000 from the National Institutes of Health to modify the interferometer to work for MEG. When complete, they'll begin testing with phantom heads and then on human subjects.

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In epilepsy research, the new equipment and procedure would provide useful information on where seizures are occurring without a doctor opening a patient's skull.



THE BRAIN AND VISION

UCI cognitive scientist Alyssa Brewer sheds new light on low-light vision, could aid people with retinal deficits

Driving down a dimly lit road at midnight can tax even the eyes of those with 20/20 vision, but according to a recent UCI study, the brain processes the experience no differently than if it were a sunny afternoon. The same study also reveals how quickly the brain adapts to vision loss, contradicting earlier research and opening the door to novel treatments.

The findings, which appear in the *Proceedings of the National Academy of Sciences*, are significant for those who have suffered retinal damage or disease, says UCI cognitive scientist Alyssa Brewer, lead author.

“Previous research suggested that the two areas of the

under low light at an angle that accesses the rod receptors. This adaptation gives researchers an opportunity to track how the brain responds to what the eye sees without using central vision – similar to the way individuals with retinal damage interpret what they see.

Brewer and Barton had test subjects sit in a completely dark room for 30 minutes and then view checkerboard stimuli under very low light while their brain activity was measured with fMRI.

In addition to the neural pathway finding, they discovered that the brain adapts immediately to required shifts in vision – a process previous work had said could take months.

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The temporary and reversible rod scotoma from low-light conditions provides an excellent way for us to study how the brain reacts and recovers from vision loss.

brain responsible for color processing received input only from cone photoreceptors – the parts of the retina used in central, normal daylight vision for things like reading and seeing details and colors in a scene,” she says.

However, Brewer and co-author Brian Barton, a postdoctoral researcher in cognitive sciences, employed fMRI to determine that rod photoreceptors, which are only active under very low light, also play a role in the color experience and use the same neural pathways that cones do.

“This is surprising because there are no rods in the central part of the retina, the part we use to see fine details,” Brewer says. “We are functionally blind in the center of our vision under low light, something we call a ‘rod scotoma.’”

To compensate for this vision loss, people look at objects

“The amount and timing of the brain’s ability to reorganize to compensate for a loss of visual input is very important for us to understand what types of rehabilitation can help recovery,” Brewer says. “The temporary and reversible rod scotoma from low-light conditions provides an excellent way for us to study how the brain reacts and recovers from vision loss, something we found to be immediate rather than long-term.”

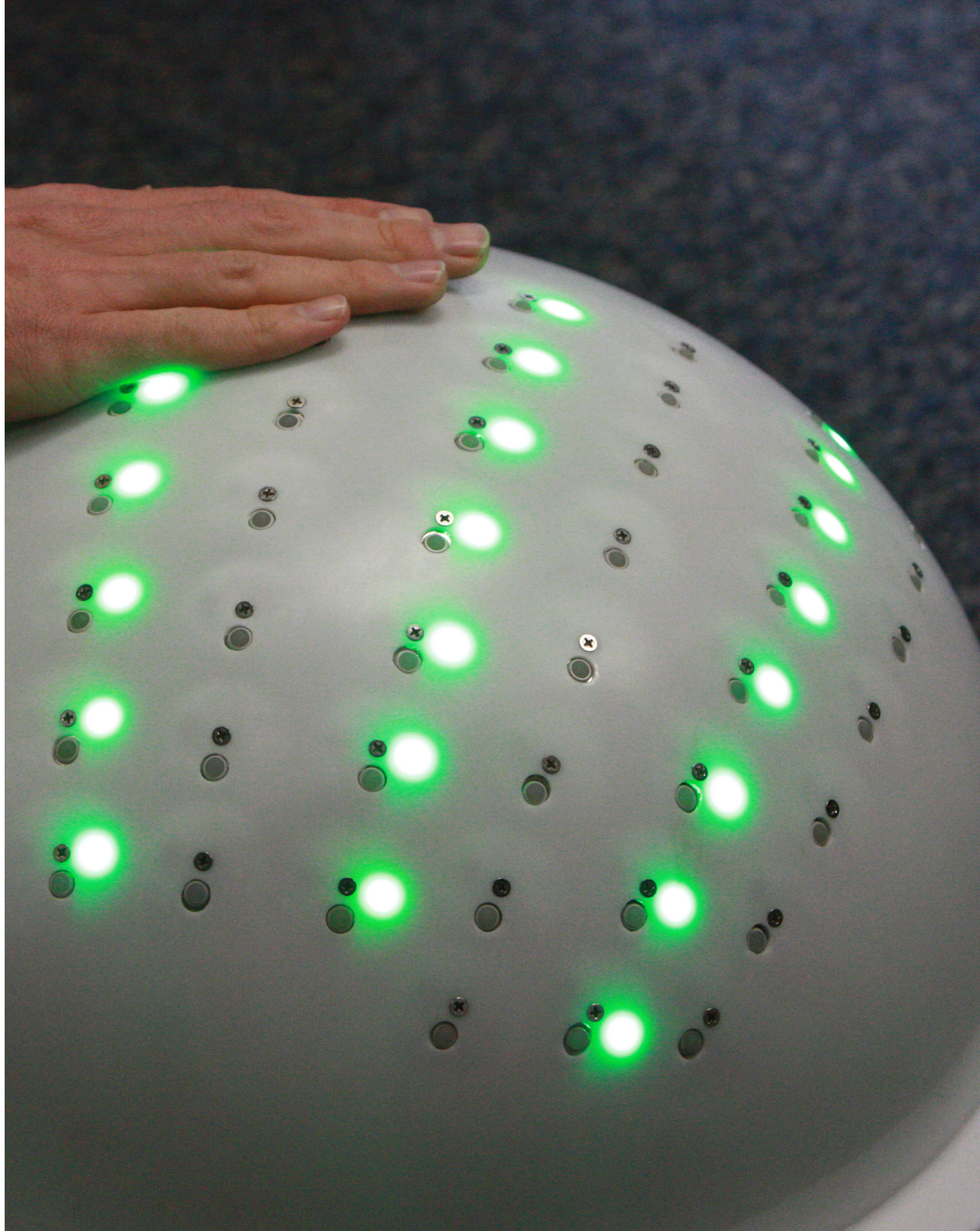
“By being able to accurately track how the brain responds to retinal damage, we can begin to create new rehabilitation techniques that could help restore vision,” she added.

Brewer’s work has been featured on *PBS*, *SCPR’s Loh Down on Science*, the *OC Register* and online international medical news sites.



TREATING AUTISM, ADHD WITH ROBOTS

*Robot designed in cognitive
scientist Jeff Krichmar's lab
helps children with autism
hone social interaction skills*



Carl-SJR isn't your typical-looking robot, if in fact there is such a thing. It doesn't have human-like features such as arms or legs, but it enjoys being touched and rubbed. It's these combined traits that may just be what make the robot a winner with its target audience – children with autism and other developmental disorders.

"Children with disorders such as autism and ADHD can sometimes be intimidated by people and non-repetitive or sudden movements," says Jeff Krichmar, UCI cognitive sciences professor and Center for Cognitive Neuroscience and Engineering director.

"This is where a lot of newer therapies like trained animals and specially designed, socially assistive robots are stepping in, helping to teach social interaction skills."

The need is definitely there. Since 2000, the U.S. Centers for Disease Control and Prevention report that the number of children diagnosed with autism has nearly doubled from 1 in 150 to 1 in 88 in 2008, the center's last published surveillance year.

Enter Carl-SJR, short for Cognitive Anteater Robotics Laboratory – Spike Judgment Robot. Developed in Krichmar's social sciences research lab, the surface of its "body" is covered with 67 track balls, the same as those used in Blackberries and older computer mice. When touched or pet, the balls send a signal to LED lights that can display in a variety of colors. The goal is for the user to get comfortable interacting with an object that responds to his or her actions.

"A lot of socially assistive technologies rely on a secondary sense, like vision,

to initiate and operate, and they usually require the use of touch screens and articulating movements with your fingertips to engage with the technology," says Ting-Shuo Chou, a computer sciences graduate student who works in Krichmar's lab. "We wanted to create something that responds to touch on a larger scale, more like petting, using something that isn't vision-based so that the sense of touch could be emphasized."

Chou worked with Krichmar and Liam Bucci, an engineer on staff in the lab, to design Carl-SJR with this in mind. The track balls, which cover a large surface area, are connected to a complex circuit board and fully self-contained computer unit that records all movements. This will eventually allow the robot to learn and adapt its patterning to the user, says Krichmar. It can also send commands, like a Simon Says color game, to help the user learn to mimic patterns using both touch and vision.

"Many children with developmental disorders have tactile or touch impairments. Carl-SJR addresses this problem by playing fun, engaging games with children where they learn appropriate social skills," Krichmar says. "Carl-SJR has the ability to learn what the child likes or dislikes and can tailor the game to their needs."

The researchers were recently awarded a provisional patent for the technology behind Carl-SJR. And while they are in the process of applying for grant funding to further develop it, they have already begun a pilot study with Dr. Sabrina Schuck at UCI's Child Development School where the robot is being introduced to children as a behavioral intervention during free-time play.

EMERGING CONFLICTS

POPULATION, PEACE AND CONFLICT, DISEASE,
CHRISTIANITY AND DIPLOMACY, ECONOMY

Every day, international news coverage provides us with examples of how events happening around the world affect us here at home. UCI social scientists are dedicated to tackling some of the most pressing of these global issues – from religious conflict to the economics of transportation and environmental change. The school is home to some of the foremost experts on topics like population, policy and politics in China, peace and conflict in the Middle East and Asia, economic turmoil in the European Union, and humanitarianism, development and AIDS in Africa. With your support for our Emerging Conflicts fund, we will help fill research gaps on these and other global challenges facing our increasingly interconnected world.



POPULATION POLICY IN CHINA

China abandons one-child policy - but now what? Sociologist Wang Feng weighs in

After 35 years of limiting couples to one child, the world’s most populous country has upped the allowable number to two children per family. But UCI sociology professor Wang Feng, one of the leading demographic experts in the decades-long push to have the policy revoked, says the move is too little, too late to change the trajectory of the country’s aging population and the looming labor shortage of working age adults.

“The one-child policy will go down in

history as another textbook example of flawed science made use by overzealous politicians,” says Wang Feng. “Such a costly and painful example only serves to highlight the crucial need for sound social science and democratic public policy making institutions.”

“The 150 million families with only one child, one in three Chinese families, will in the coming decades be one of the greatest social and economic liabilities for China. These liabilities will have global implications that will become more evident as time goes by.”

He’s been featured in *The Guardian*, the *Wall Street Journal*, *Bloomberg*, the *Japan Times*, *South China Morning Post*, *NPR*, *Science*, *The Washington Post* and *LA Times*, to name a few.



featured:
OLIVE TREE INITIATIVE



Program sows the seeds of peace by bringing greater understanding of the Israeli-Palestinian conflict

The Olive Tree Initiative was founded in 2007 by a religiously and ethnically diverse group of UCI students with the goal of promoting education and dialogue on conflict in the Middle East. Each year, participating students travel to the Middle East or the South Caucasus region where they learn from academics, religious authorities, community leaders, politicians and activists who live in the region. The students gain knowledge beyond mainstream media reports and bring back these unique perspectives. OTI hosts weekly campus dialogue sessions, monthly community forums, an annual education week and UC-wide student leadership summit, and various events off campus to share their experience. OTI's work serves as the foundation of UCI's undergraduate certificate program in conflict analysis and resolution, which offers students academic credit for work leading up to and following their learning trip. OTI now has active groups operating on UC campuses in Berkeley, Irvine, Los Angeles and Santa Barbara; a new international chapter at the University of Glasgow, Scotland; and additional branches in the works at other universities nationwide. OTI alumni include Rhodes, Fulbright and Rotary scholars, and some of the program's first graduates are already cultivating careers at non-governmental organizations (NGOs) and in international politics.

Accolades include: Top Citizen Diplomacy Program, U.S. Summit for Global Citizen Diplomacy and U.S. State Department | Inaugural Award for Outstanding Leadership, UC Office of the President | Anteater Award for Best International Organization, UCI | Paul Delp Peace Award, Interfaith Peace Ministry of Orange County | Community Leader Award, Orange County Human Relations Commission | Living Our Values Award, UCI

PEACE AND CONFLICT IN THE MIDDLE EAST AND EAST ASIA

Etel Solingen, political science professor and Tierney Chair in Global Peace & Conflict Studies, tells a tale of two economic trajectories

With the hopes raised by the “Arab Spring” faded, the region's agenda is once again dominated by terrorism, unspeakable human rights abuses, civil wars, use of chemical weapons, failed states and now a brutal would-be caliphate. Was this the only possible trajectory? Looking back 50 years, the Middle East faced challenges of postcolonial state and nation-building, low per-capita income and heavy-handed authoritarianism. East Asia faced much of the same, yet today has become the epicenter of the global economy. How could similar conditions lead to such disparate outcomes?

At the core of this puzzle are two competing models that leaders embraced to gain and retain power in each region. Most Middle East leaders thrived for decades on nationalist rejection of the global political economy. Their strategies of “self-sufficiency” leaned on state and military-industrial entrepreneurship and

rentier politics. East Asian leaders, by contrast, survived politically through economic growth led by engagement with the global economy. These models explain the two regions' different paths vis a vis development, diffusion and democracy.

Regarding development, East Asia's typical model emphasized developmental states steering export-led manufacturing, foreign direct investment and improved education. The Middle East's typical model emphasized high tariffs and extensive state and military enterprises. As a result, while trade openness was lower in East Asia 50 years ago, it had become twice as high as that of the Middle East by the 1980s. In East Asia, greater openness led to rising standards of living and higher literacy levels, including female literacy. In the Middle East, less openness led to recurrent economic crises, stagnation, collapse, widespread poverty and unemployment, vast gender inequities and high illiteracy.



The capital city of Amman, Jordan

What prevented Middle Eastern regimes from shifting to a different model in the face of such a disappointing record? Dominant forces, particularly the military and other protectionist groups that benefited from economic closure across the region. Military expenditures relative to income remained at least twice as high in the Middle East as East Asia, competing with the population's socio-economic needs. This history of rapacious states created the space in which radical Islamist movements could take root.

Regarding diffusion, the respective models were reflected in the nature

of things that diffused more easily in each region. In East Asia, successful export-oriented models of political economy diffused from Japan, Taiwan, South Korea, Hong Kong and Singapore to Malaysia, Thailand, China, Indonesia, Vietnam and other “tigers” and “dragons.” As a result, East Asian economies today are increasingly vital to each other: Over 50 percent of their total exports stay within the region.

By contrast, most Middle East regimes built firewalls against outward-oriented models, blocking change to protect their own ruling coalitions and con-

spiring against those who might have favored such shifts in Lebanon, Jordan and elsewhere. Those dominoes that did spill over Middle East borders included civil wars, terrorism and human rights abuses rather than trade. Turkey is one of the few to eventually escape this domino effect. In recent years, some Persian Gulf monarchies have begun diversifying away from oil, but they are still a long way from achieving new socio-economic models. As a result of these different diffusion patterns, Middle East economies are far less integrated with each other and the world than their East Asian counterparts. Less than 16 percent of

Middle East exports stay in their region. While East Asian economies account for 25 percent of world exports, those of the Middle East account for only about 5 percent, largely oil. Likewise, East Asia contributes nearly 30 percent of the world's manufacturing exports, and the Middle East contributes less than 2 percent.

Regarding democracy, authoritarians launched export-led models in East Asia with little intention to develop democratic institutions. Yet, in time, economic growth, stronger private sectors and professionalized militaries fostered better conditions for democratic

institutions. Not all states in that region have gone through that transition yet, but a good number have. By contrast, devastated private sectors and civil societies and entrenched military industrial complexes have made authoritarianism more resilient in the Middle East.

So, is the die cast? Cases around the world suggest that history can weigh heavily on a state's future but does not invariably impose a point of no return. Southeast Asia was once labeled the “Balkans of the East,” but it is now a thriving region where a flexible, reformist and “modern” Islam has largely overcome its radical competitors.

The barriers for the Middle East may be high but not insurmountable. Achieving effective reforms will require more than what some label “neoliberalism” that retains such basic features of the old model as corruption and rents. Reforms will demand

a thorough transformation toward increased openness to the global economy. Such openness has lifted many millions out of poverty elsewhere and, if done well, can narrow inequality. Turkey, Morocco, Jordan, Tunisia and some Persian Gulf sheikdoms have begun to make strides toward greater economic openness, but they still have a long way to go.

Only far more extensive reforms, embedded in a new regional pattern, can prevent predatory states from being overrun by even greater predators.

Featured in The Washington Post, August 2015



A cargo ship arrives in Singapore, one of the busiest ports in the world

HUMANITARIANISM IN AFRICA

*Christianity and Western diplomacy:
Strange or obvious bedfellows?*

The relationship between Christianity and diplomacy in the modern Western world is a very old and very important one, but it rarely gets the attention it deserves. Yet, if we dig underneath the secularist assumptions for international politics, we can easily see the degree to which religious – and, in particular, Christian – ethics, actors, and thought have always been an integral part of diplomatic practices.

Cecelia Lynch, UCI political scientist and director of the Institute for International, Global and Regional Studies, has been analyzing this tumultuous relationship for more than 20 years. She says that in order to understand contemporary diplomacy, it is useful to understand its roots in a Christian history of conflicts between universalism and particularism, from the early modern period through the creation of global organizations to the present, post-Cold War era. This history also enables us to see how Christian actors – despite the fact that they do not speak with one voice – continue to be influential as negotiators and humanitarians in diplomacy today. Additionally, exposing the symbiotic relationship between Christianity and diplomacy in the West brings to attention how both Christian actors and Western diplomats must increasingly take into account the ethics and practices of other parts of the world to achieve goals of order and peace among states and peoples.



Currently in her second of a three-year study to better understand connections between religion and humanitarianism in Africa, Lynch says we have a ways to go.

“These connections remain insufficiently understood in many important respects, negatively affecting perceptions about religion and policies regarding humanitarianism on the continent,” she says.

Through further research and knowledge sharing, she hopes to spark more informed debate among those who provide aid and lasting egalitarian and humanitarian relationships among donors, NGOs and aid recipients.



Cecelia Lynch received a \$450,000 grant in 2015 from the Henry Luce Foundation's Initiative on Religion and International Affairs for a three-year project on connections between religion and humanitarianism in Africa.



GREECE AND ITS FUTURE IN THE EU

Q&A with economics professor and Clifford S. Heinz Chair Stergios Skaperdas

As uncertainty simmers in Greece following the country's default on its national debt, Stergios Skaperdas, UCI professor of economics and Clifford S. Heinz Chair, continues to be an authoritative voice on how governance and conflict affect the economy. Media and policy professionals seek him out for his solution-driven intervention on the region's financial crisis.

In fact, in 2010, he offered sobering advice to the Mediterranean nation which proved prudent: "Greece needs to default on its public debt," which the country did in June 2015. He also advised that they exit the Eurozone, a move that is still potentially on the books.

"Simply said, it is very difficult, if not impossible, for so

many heterogeneous countries to have a common currency," Skaperdas says.

The results of his research are summed up in his paper, "Seven Myths about the Greek Debt Crisis," which has been cited in more than a dozen publications including *The New York Times*, *The Guardian*, *National Public Radio* and *CNN*, and is a key referent in the ongoing debate and in policy circles.

Here, Skaperdas explains what happened in Greece, how a departure from the collective euro currency could affect international markets, and what lessons decision makers worldwide can learn about the relationship between economic policy and politics.

Q. What factors contributed to Greece’s default and debt issues in the larger Eurozone?

A. Greece had high public debt when the worldwide slowdown occurred in 2007, resulting in more public borrowing. By the beginning of 2010, the country could no longer borrow in the international bond markets. Mainly in order to pay bondholders and avoid default, the other Eurozone countries and International Monetary Fund loaned money to Greece in exchange for increasingly draconian budget cuts. This led to a depression that’s made debt even less sustainable than it was at the beginning of the crisis.

Q. Is the U.S. economy facing similar problems?

A. The U.S. does not have these deep institutional problems; they have been largely resolved over more than two centuries. The federal government centrally administers fiscal policy, bank supervision is less fragmented (though certainly problematic), and bank deposit insurance and a strong Central Bank has existed since the 1930s.

In the U.S., the main problem is that the financial sector’s inordinate political influence prevented reform of our fragile financial system after the 2008 crisis.

“

In short, it is difficult – if not impossible – for 17 heterogeneous countries to share a currency.

Other countries got into trouble for different reasons. Ireland, despite having the lowest public debt relative to its income in the Eurozone, suffered from very high private debt, a significant housing bubble, and collapsing banks that the government took over after guaranteeing their deposits. Spain had similar problems, while Portugal had no apparent immediate problem, aside from low growth for the past decade, but the international bond markets decided against funding it. Italy has had low growth and high levels of public debt.

These factors are symptoms of the more general problems with the Eurozone and its institutional structure. In short, it is difficult – if not impossible – for 17 heterogeneous countries to share a currency. The absence of a common fiscal policy (i.e., common taxing and spending), low labor mobility, fragmented bank supervision, and a weak Central Bank, all are institutional holes exposed by the first serious recession. And they are the cause of problems that have cropped up in one country after another.

Q. What solutions exist for the Eurozone? What impact will these actions have on international markets?

A. The wider solution to the Eurozone’s problems is establishing a “United States of the Eurozone” and that’s not in the cards. So it makes sense for all Mediterranean countries to exit the Eurozone. Beyond that, there is too much uncertainty to predict what will happen. It is important that the unwinding of the Eurozone is orderly and that care is taken to maintain the European Union and enhance democratic accountability within it.

What happens in the Eurozone will affect international markets and economies because the world financial system is fragile. Many financial institutions – in Europe and in North America – will likely collapse and be taken over by their governments, and recession can be expected in most countries.

featured:
GLOBAL CONNECT



Educational partnership program brings international issues front and center in local high school classrooms

Global Connect is a high school curriculum program developed by UCI faculty and students who team-teach issue-focused lesson plans alongside high school educators in the Newport-Mesa and Saddleback Valley school districts. Topics include climate change, terrorism, mass media and technology in a global society – areas not covered under current state education standards but topics in which UCI researchers excel. The real-time course content reflects the continually changing world landscape while bringing new and updated university research directly to high school teachers. The year-long curriculum is a University of California regent-approved “a-g” elective. Launched in 2001, the program has reached more than 8,000 OC high school students and more than 400 UCI undergraduate and graduate interns have helped develop and teach course content. Two-thirds of participating undergraduates have gone on to attend graduate school or become educators and six former interns have received Fulbright scholarships.

HIV IN AFRICA

Little is known about one of the area's most vulnerable populations - children living in households with HIV-infected adults

Sub-Saharan Africa has long been known to have the highest rates of HIV/AIDS in the world. But recent findings by UCI sociology assistant professor Rachel Goldberg reveal that despite the focus on the region, few estimates exist of one of its most vulnerable populations - children living in households with HIV-infected adults.

Healthcare workers in Sub-Saharan Africa face many challenges in keeping children healthy, including extreme poverty and high levels of disease and illness. The emergence of HIV and AIDS in the region has only exacerbated these challenges.

Goldberg has been taking a closer look at how common it is for children to live in a household with at least one HIV-infected adult. Some of these children may have needs that are distinct from other HIV-affected children.

They can have increased exposure to opportunistic infections - such as tuberculosis and pneumonia - and they can be affected by a cascade of events in their households including the diversion of attention and other resources, a change in household responsibilities including the need to provide care, and effects of HIV-associated stigma in schools or communities.

Using demographic and health survey data from 23 countries collected between 2003 and 2011, she has found that the population of children living in a household with at least one HIV-infected adult is substantial where HIV prevalence is high and is largely distinct from the orphan population. In southern Africa, the percentage of children living in a household with at least one HIV-infected adult exceeded 10 percent in all countries and reached as high as 36 percent. Most of those children live with parents, often mothers, who are infected, and in most

countries more than 20 percent live in households with at least one infected adult who is not a parent.

Goldberg says she was surprised to find that while children living in households with HIV-infected adults are widely recognized as HIV-affected, most publications that monitor the situation of children in the context of AIDS report only on the prevalence and incidence of pediatric HIV, the percentage of HIV-infected pregnant women receiving treatment, and the prevalence of children who have lost one or both parents to AIDS or other causes. Noting that these are all very important indicators, she says there is so much more to know about children's experiences.

She predicts that these numbers will not decrease any time soon and that current care and outreach efforts should be examined to assure that the distinct needs of these children are being met.



COMMUNITY LEADERSHIP

BOARD OF COUNCILORS
DEAN'S LEADERSHIP SOCIETY
ALUMNI NETWORK

The School of Social Sciences relies on key leaders from our community to be our ambassadors and advocates. Learn more about our community leadership organizations and how you can get involved.



steve borowski, '79, chair

BOARD OF COUNCILORS

The Board of Councilors is comprised of distinguished professional, academic and community leaders who provide counsel to the dean and serve as the main advisory board for the School of Social Sciences.

Members play an active role in advocating for UCI with friends and colleagues, and serve as ambassadors for the School of Social Sciences to the outside community.

In addition to advising the dean on issues relative to the School of Social Sciences, the Board of Councilors members assist in securing financial and volunteer support.

Board members brainstorm with the dean on how to frame initiatives for prospective donors, make introductions and broaden the school's network.

The Board welcomes your input on matters that make a difference within the school.

“

UCI has evolved into a world-class research university led by world-class people. Each of us plays a vital role in its continued success. Our collective involvement is critical to make sure this campus continues to make a positive impact on the community and world as a whole.

-Steve Borowski, founding chair

Please contact Tracy Arcuri, tarcuri@uci.edu, for more information.



Inaugural members of the DLS at the future brick-naming site, 2014. Founded in fall that same year, the DLS had 64 members at the close of 2015.

To learn more, please contact Liz Dahl, dahle@uci.edu.



janice cimbalo, '87, co-chair



claudia keller, '87, co-chair

DEAN'S LEADERSHIP SOCIETY

The DLS provides an opportunity for alumni, parents, community, faculty and staff to support the school at various commitment levels, while receiving special recognition and opportunities to engage in the school's growth. Members join an influential network of supporters and like-minded individuals who are deeply committed to enriching the UCI social sciences and university's national prominence.

Gifts to the DLS support specific projects determined annually in consultation with DLS chairs and its Executive Committee. Past gifts have supported scholarships for UCDC students, funds for faculty retention, and renovation and naming of a classroom used by social sciences' student groups. Members that joined as Charter Members in 2014-15 received a brick in their name in the plaza outside of Social Science Plaza B, adjacent to the student activities room.

"The Dean's Leadership Society has brought much deserved attention and visibility to the amazing developments coming out of the School of Social Sciences and its acclaimed faculty," says Claudia Keller, DLS co-chair. "When I was an undergrad, UCI was scratching the surface of national recognition. Today under the leadership of dean Maurer, we are truly world class. Zot!"

Co-chair Janice Cimbalo agrees: "Dean Bill Maurer's visionary Dean's Leadership Society has created a powerful bridge between the School of Social Sciences alumni and the student population that not only showcases the remarkable accomplishments of the school in UCI's first 50 years, but also provides opportunities to enrich the current student body and continue to increase the school's profile as a world-class educational institution."



larry tenney, '83, chair

ALUMNI NETWORK

Half a century ago, the School of Social Sciences founders had a vision to bring together scholars whose different approaches - from quantitative to qualitative, formal to interpretative - would tackle fundamental research questions and pressing social problems.

Our alumni represent the realization of that vision. The Social Sciences Alumni Network encompasses all 45,000+ Anteaters who once called the UCI School of Social Sciences home.

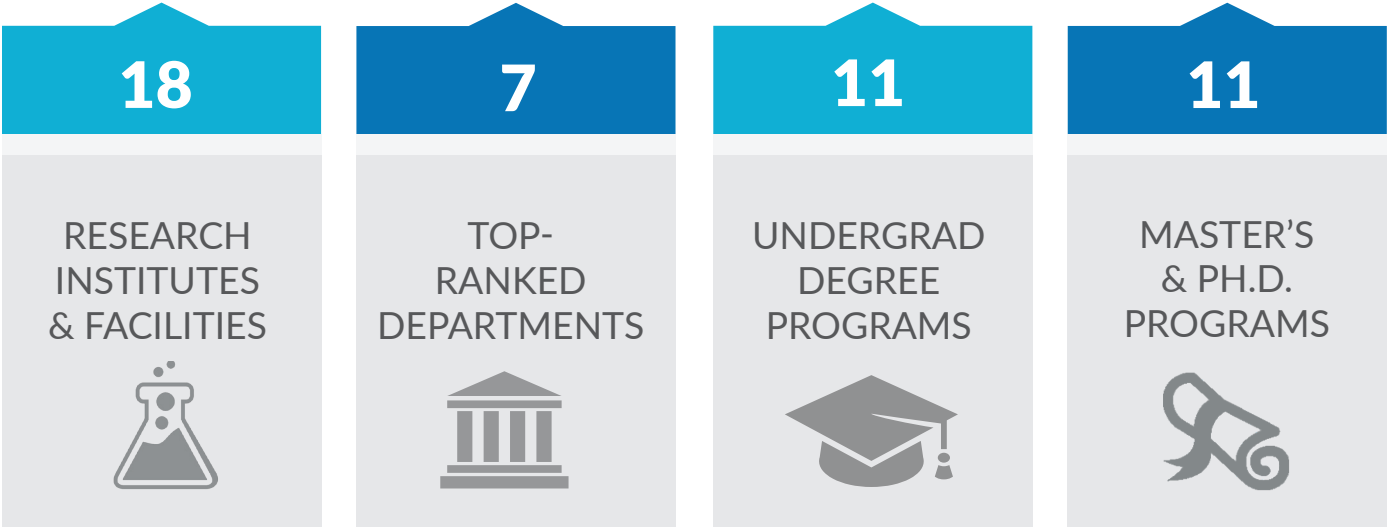
We hope that you will take an interest in learning more about the school's priorities, ways you can connect with our students, and/or give back to the school so that you, too, can make a difference.

"Our bonds as Anteaters are lifelong - I encourage you to play an active role in shaping UCI's future and deepening your connection with our UCI community here and around the world," says Larry Tenney, Alumni Network chair. "My life has been enriched by it - yours will be too!"

To get involved, connect with Rosemarie Swatez, rswatez@uci.edu.



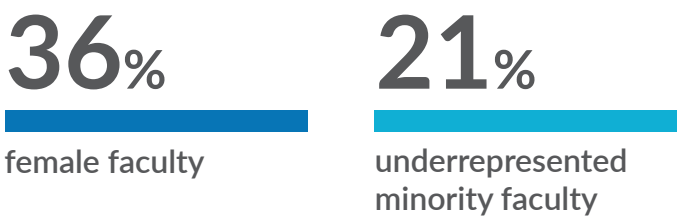
SOC SCI BY THE NUMBERS



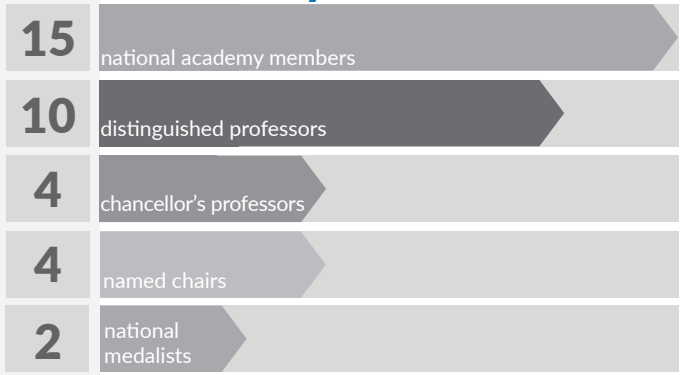
As the largest academic unit on campus, the School of Social Sciences faculty and staff are committed to providing the highest quality research and educational experience. Among the school's 151 distinguished faculty are 9 fellows of the American Academy of Arts and Sciences, 5 members of the National Academy of Sciences, 1 member of the National Academy of Education, 10 UCI Distinguished Professors, 4 UCI Chancellor's Professors, and 4 UCI Endowed Chairs. Since the school's founding, there have been 2 National Medal recipients among the faculty.

Diversity is paramount to the school's success and social sciences is proud to highlight its efforts to recruit and retain female and underrepresented minority faculty.

Assisting in the organizational efforts that keep the school on its successful trajectory are 80 staff members whose years of service range from a few months to 44 years, averaging into 12.4 years spent within the social sciences family.



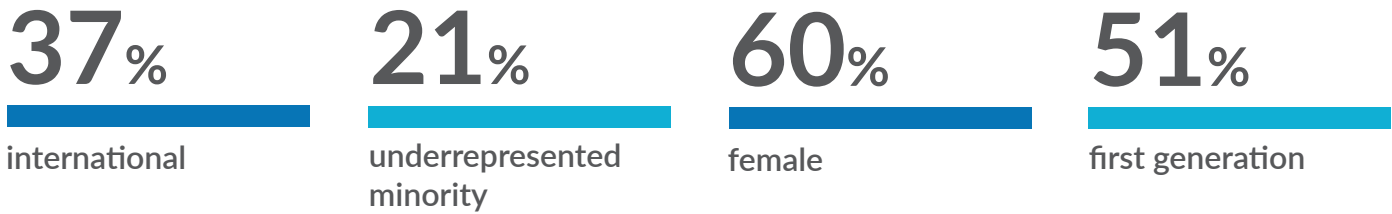
noteworthy



\$6.7 million
extramural research funding received '15

12.4 years
average years of staff service in school

INCOMING SOC SCI UNDERGRADS

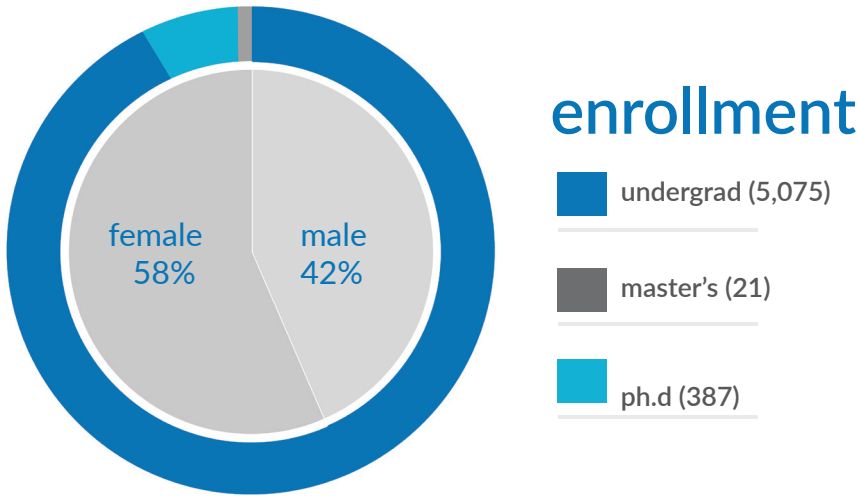


undergrad snapshot

The average current social sciences undergrad is a 21-year-old-female from California majoring in business economics - and she's the first in her family to go to college.

grad student snapshot

The average current social sciences grad student is a 29-year-old-male from California pursuing a Ph.D. in sociology.



26.5%
of UCI's class of '15 are social sciences alumni

total social sciences alumni

45,262

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