NIH backs Keck School investigators

By Cristy Lytal

The National Institutes of Health (NIH) has recognized Keck School of Medicine of USC scientists Gage Crump, PhD, and Pinghui Feng, PhD, with awards for Sustaining Outstanding Achievement in Research (SOAR) — eight-year, $8 million grants to enhance our understanding of dental, oral and craniofacial diseases and conditions.

Awarded by the NIH’s National Institute of Dental and Craniofacial Research (NIDCR), the grants support mid-career scientists with strong track records of productive and innovative research. Using zebrafish as a model of human craniofacial development and disease, Crump and his team have pioneered new ways to study the development, maintenance and regeneration of the head and face. Moving forward, Crump will continue to explore how progenitor and stem cells build, maintain and regenerate the face and head — and ultimately use the lessons learned from zebrafish to advance treatments for human patients.

Crump, an associate professor of stem cell biology and regenerative medicine at the Keck School, also is dedicated to fostering the next generation of stem cell scientists. In 2013, he created USC’s PhD Program in Development, Stem Cells and Regenerative Medicine, and in 2017 he won a USC Mentoring Award for his exceptional efforts in guiding graduate students to success.

Feng, an associate professor of molecular microbiology and immunology at the Keck School, explores the link between the Health and Ageing Brain among Latino Elders (HABILE) study, is funded by a $12 million grant from the National Institutes of Health and seeks to establish a better understanding of aging and Alzheimer’s among Mexican-American.

USC partners for $12 million study on Alzheimer’s diversity

By Zara Abrams

The USC Mark and Mary Stevens Neuroimaging and Informatics Institute at the Keck School of Medicine of USC is working to address a troubling trend in biomedical research: the lack of diversity in data archives. A new collaborative project, the Health and Ageing Brain among Latino Elders (HABILE) study, is funded by a $12 million grant from the National Institutes of Health and seeks to establish a better understanding of aging and Alzheimer’s among Mexican-American.

Schools join programs, opening doors to lab for teen neighbors

By Divya Yerwa Mary

Individually, the Science, Technology and Research (STAR) and Engineering for Health Academy (EHA) programs have long opened pathways for high school students — particularly underrepresented minorities — to pursue careers in life sciences, biomedical engineering and biotechnology. Now, Daryl Davies, PhD, professor of clinical pharmacy and director of undergraduate education at the USC School of Pharmacy and Joseph Coccozza, PhD, assistant professor of research ophthalmology at the Keck School of Medicine of USC have joined to blend and expand these programs’ longstanding partnerships with Francisco Bravo Medical Magnet High School for even greater impact on young scientists’ futures.

The augmented STAR/EHA program, funded by USC’s Good Neighbors Campaign, offers an innovative approach to science, technology, engineering and math (STEM) education by providing high school students an entire year’s experience in USC research laboratories that is integrated with their academic curriculum.

Throughout the year, STAR/EHA students conduct original research projects under the careful guidance of postdoctoral researchers, graduate students and laboratory directors. This level of engagement in a university-level research environment fosters the students’ interest in science and research, in addition to preparing them for success in college.

On their own, the STAR/EHA programs have had a 100 percent success rate of participants going on to college, with a large percentage attending top universities such as USC, Stanford, Caltech, Princeton, Yale, Harvard, MIT, Northwestern, University of Pennsylvania and University of California, Berkeley.

Be a Good Neighbor

October marks the beginning of the Good Neighbors Campaign. USC’s annual employee-giving initiative organized by Civic Engagement. The campaign encourages USC faculty and staff to contribute a portion of their paychecks or to give online, visit goodneighbors.usc.edu

Schools join programs, opening doors to lab for teen neighbors

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Clinical Trials Office offers support for faculty members

By Amanda Busick

The Keck School of Medicine of USC has a number of new initiatives that are creating a more streamlined and user-friendly environment to help faculty members succeed in managing their clinical research, often a time-consuming and complicated undertaking.

The USC Clinical Trials Office (CTO) handles administrative aspects of industry-funded clinical trials, including coverage analysis, contracting, budget development and post-award financial management. The CTO also conducts coverage analysis and provides assistance with budget development for federally funded clinical trials.

The CTO has quickly developed the CTO for schools on the Health Sciences Campus since January 2016. During that time, the CTO has staffed and worked on projects, leading to the clearing of a backlog of 246 studies pending activation and an activation rate increase from an average of 8 to 15 studies per month, administrators said. The CTO now has a goal of activating all trials within 90 days of submission.

The Southern California Clinical and Translational Science Institute (SCCTS), funded by the National Institutes of Health, provides services and resources to researchers at USC and Children’s Hospital Los Angeles (CHLA). The Clinical Research Support group of the SCCTS provides a wide variety of resources to support clinical research. Researchers can access biosatistical support, regulatory advice, a pool of study coordinators, enrollment services and other outpatient Clinical Trialt Units. They also can access pilot funding, research vouchers and team-building expertise, as well as multiple funding opportunities.

“We also provide free consulting hours for research teams to strategize recruitment,” said April Armstrong, MD, MPH, associate dean for clinical research and associate professor of clinical dermatology. “This includes both traditional recruitment venues and social media platform strategies.”

The SCCTS, CTO and other support teams have launched the Clinical Research Harmonization Initiative with the goal of developing a more streamlined process for submission and activation of clinical trials. Creation of a single portal for trial submission is the next goal.

“The Keck School and the dean consider clinical research to be a high priority,” said Thomas A. Buchanan, MD, vice dean for research and the director of the CTO. “We have made major investments in the infrastructure, and because of our expanded resources, submissions are up and they are getting processed much more quickly. Interested faculty can learn more about the resources available for clinical trials at a town hall from 4 p.m. to 5:30 p.m., Oct. 23 in Mason Auditorium. For more information, contact Julie Carl at jcarl@med.usc.edu.”

Visions and Voices brings public health expert to campus

By Amanda Busick

Camara Jones, MD, MPH, spoke to an audience in the Morehouse School of Medicine, when faced with a medical crisis, she went on to apply this cliff analogy to real-world health equity concerns. “An example of addressing the social determinants of health would be addressing poverty, or addressing adverse neighborhood conditions, such as lack of basic services or safety concerns,” Jones explained. These can only be fixed, she continued, if you understand the reasons the adverse conditions exist in the first place.

Jones, also who is the immediate past president of the American Public Health Association, engaged the audience by presenting her lecture as a conversation. She encouraged attendees to speak out with questions or comments while she was speaking, which created a meaningful conversation that created a deeper understanding of the concepts being presented.

“Sometimes you yourself at a decision-making table, your first job is to look around and say ‘who is not here who has an interest in this proceeding?’” Jones said. “And then your job is not just to represent their interests, but to learn to try to find a way to the table.”

More information on future Visions and Voices events can be accessed at visionsandvoices.usc.edu.

Calendar of Events

Friday, Oct. 6

7 a.m. USC Caruso Department of Otolaryngology - Head and Neck Surgery Grand Rounds. “Contemporary Management of Head and Neck Cancer: Getting Outside the Box.” Joseph Bradley, MD, Washington University School of Medicine in St. Louis. 506 S. Grand Ave., Los Angeles. Info: Ty Christopher, (323) 409-5233, tychristopher@med.usc.edu.

Saturday, Oct. 7

7 a.m.-5:30 p.m. Department of Medicine, division of rheumatology, and USC Office of Continuing Medical Education. “USC Clinical Rheumatology Update: Focus on RA, Lupus and Psoriatic Arthritis.” Arnaudova, PhD. Harkness Auditorium. Info and RSVP: (323) 442-2555, usccme@med.usc.edu, https://cmetracker.net/KECKUSC/Catalog

Tuesday, Oct. 10

11:30 a.m. USC Human Resources. “2018 Open Enrollment Information Session.” Keck Hospital of USC, Cardinal Room. Info: (213) 821-8100, uschr@usc.edu, https://openenrollment.usc.edu.

Thursday, Oct. 12


5:30 p.m.-7:30 p.m. Art Rs Workshop. Simi Rahman, MD. Ancey Auditorium. Info and RSVP: Georgia Wesson, (818) 645-0938, gwesson@usc.edu.

Saturday, Oct. 14

7 a.m.-4 p.m. Center for Cardiovascular Disorders, Departments of Neurosurgery and Neurology, and USC Office of Continuing Medical Education. “2017 Cardiovascular Disease Symposium: From Clinical Trial to Clinical Practice.” Mayer Auditorium. Info: Lydia Valenzuela, (323) 442-2555, usccme@med.usc.edu, https://cmetracker.net/KECKUSC/Catalog

8 a.m.-5:15 p.m. .Office of Cardiovascular Medicine and USC Office of Continuing Medical Education. “Innovations in Cardiovascular Diagnosis and Therapy.” The Forum at Tutor Campus Center (TCC) 450. Info and RSVP: (323) 442-7233, global.health@usc.edu, https://globalhealth.usc.edu/planetary-health. This event is part of the USC Global Health Lecture Series and will be live-streamed at https://facebook.com/USCGlobalHealth.

Thursday, Oct. 19


Saturday, Oct. 21


Notice: Calendar items are due at least 10 days before publication date. Timely submission does not guarantee publication in print. See more calendar events at calendar.hsc.usc.edu. Calendar of events: Submit items at tinyurl.com/calendar-hsc. Include day, date, time, title of talk, first and last name of speaker, affiliation of speaker, location and a phone number/email address.
**DIVERSITY: Clinical trial participation urged from people of all races**

Continued from page 1

“The most of the archives around the world have insufficient numbers of underrepresented groups,” said Arthur W. Toga, PhD, director of the institute and one of the principal investigators of the study. “It’s important for people of all races and ethnicities to participate in Alzheimer’s clinical trials, because this disease is a problem that affects all of us.”

The five-year study was launched in September and is a collaboration with researchers from the University of California, San Francisco. Investigators will recruit and test 2,000 volunteers from North Texas — half Mexican-American and half non-Hispanic white — and hope to learn something new about how the debilitating disease affects Latinos differently.

“A previous research by Sid O’Bryant, PhD, associate professor of internal medicine at UNT and principal investigator of the study, points to one possible explanation for Mexican-Americans’ increased risk: metabolic risk factors such as obesity and Type 2 diabetes,” the article states. “It could be that diabetes and metabolic dysfunction or depression, or a combination of both, are of major importance to memory loss and Alzheimer’s disease among Mexican-Americans,” O’Bryant said.

Researchers will perform cognitive tests, blood work and brain scans on participants twice during the five-year period to monitor changes in health and behavior over time. O’Bryant’s team even purchased a robot to help handle the mass of data they plan to collect: the hot process will involve 400,000 blood tubes stored in metabolic biodatabases.

Researchers at the Keck School of Medicine and the Institute for Neuroimaging and Informatics will be responsible for another large chunk of data: 4,000 brain scans. Toga, Provost Professor of Neurology, Psychiatry and the Behavioral Sciences, Radiology and Engineering, and the Ghada Irani Chair in Neuroscience, will oversee image storage and processing, while Yongyang Shi, PhD, assistant professor of neurology, and Meredith Braskie, PhD, assistant professor of research neurology, respectively will process connectivity and structural images.

**RESEARCH: Awards provide support for investigators’ career progress**

Continued from page 1

**Vaccine could stop Alzheimer’s years before it begins**

By Erica Rheinschild

Researchers at the Keck School of Medicine of USC are tackling the sixth-leading cause of death in the United States — Alzheimer’s disease — with a new study that involves decades before the disease develops. The school is joining approximately 90 institutions in North America, Europe and Australia in the Generation Study, which is testing a vaccine and oral medication to prevent Alzheimer’s in older adults at increased risk for developing the disease.

By focusing on prevention, the study is taking a different approach to halting a disease that affects 47 million people worldwide. “One of the challenges in developing new medications for Alzheimer’s is that researchers tend to test medications on people with more advanced Alzheimer’s, and medications are simply not proving to be effective,” said the study’s lead investigator at the Keck School, Lon Schneider, MD, professor of psychiatry and the behavioral sciences and professor of neurology. “By intervening 10 to 12 years before Alzheimer’s manifests, we may be able to stop it before it begins or delay the symptoms.”

Adults 60 to 75 years of age with normal cognition who are interested in participating must undergo genetic testing for the apolipoprotein E4 (APOE4) gene, which is associated with an increased risk of developing Alzheimer’s. “Half of all people with Alzheimer’s disease carry the APOE4 gene, which can be inherited from either parent,” Schneider said. About 25 percent of the population carries one copy of the APOE4 gene, and about 2 percent to 3 percent of the population carries two copies, having received one from each parent. To qualify for the study, participants must have two copies of the gene.

Qualifying patients may be randomized to take a vaccine, oral medication, placebo vaccine or placebo oral medication. The vaccine and oral medication target amyloid beta — the main component in amyloid plaques in the brain and a culprit in Alzheimer’s — in two different ways: The vaccine helps the body develop antibodies against amyloid beta, while the oral medication locks an enzyme that creates amyloid beta. Participants may receive the study medications for five to eight years. “If we are able to show that the vaccine or oral medication is effective at delaying Alzheimer’s among people at higher risk, then this would indicate that we are on the right track for developing treatments,” Schneider said.

“If we can delay the onset of Alzheimer’s by five years, for example, the incidence of the illness would drop by half. It would also give individuals five more years without symptoms of the illness.”

Should the vaccine or oral medication prove to be effective in people with two copies of the APOE4 gene, then it likely would also be effective for other people at risk for Alzheimer’s, according to Schneider.

“Our clinician-scientists have been actively involved in clinical drug development for Alzheimer’s disease for more than 30 years,” said Rohit Varma, MD, MPH, dean of the Keck School. “This study is a reflection of our continued efforts to overcome one of the greatest health challenges of our time.”

For information about the study, contact Nadine Diacon at (323) 442-7600 or ndiacon@usc.edu.
Collaboration, partnerships celebrated at USC Body Computing Conference

By Douglas Morino

A new partnership with Lyft Achat increases access for senior citizens to high-quality care at Keck Medicine of USC facilities is expected to launch by the end of the year. The announcement was made Sept. 22 at the 11th Annual Global Body Computing Conference, an event at USC’s University Park Campus that attracts thought leaders from across the globe, offering perspectives and insights on the convergence of health and technology.

Under the pilot program, senior citizens, many of whom are considered vulnerable and at-risk patients, will have access to cost-free rides to medical appointments as well as social and other activities. The program will study whether these rides can also reduce isolation and help older adults be healthier.

“Seniors often deal with issues like isolation and loneliness,” said Jim Murphy, MBA, vice president, innovation, UnitedHealthcare Medicare & Retirement. “In addition to helping them stay socially connected, we hope this program will help at-risk seniors keep their medical appointments and allow them to close any gaps in their health care.

Developed by the AARP Foundation, UnitedHealthcare, the USC Center for Body Computing and Lyft, the program links seniors with on-demand ride services, allowing patients older than 60 who have missed at least two doctors’ appointments within the last 12 months and who have an upcoming appointment in the next three months, to have access to cost-free rides from Lyft.

“Our mission is the same today as it was when we started: to create a virtual, global health care system that is continuous, on-demand, easily accessible and deeply personal,” said Leslie Saxton, MD, professor of medicine (clinical scholar) at the Keck School of Medicine of USC and founding and executive director of the USC Center for Body Computing. “Disruption of traditional models of care or any industry always takes longer than you think, but change happens fast.” Saxton referenced the AARP Foundation, UnitedHealthcare and Lyft pilot program as an example of a partnership that disrupts traditional health care to empower patients and provide a service that complements their medical care.

Among the topics discussed at the conference were body-worn sensors that provide real-time readings, cybersecurity initiatives and athlete health.

Along with Saxton, conference participants included Bakul Patel, MS, MBA, associate director for digital health at the U.S. Food and Drug Administration; Gene Sykes, MBA, CEO of the LA2028 Olympic bid; and Lisa Marsh Ryerson, MS, president, AARP Foundation. Panels and Q&A sessions also featured Keck Medicine physicians and innovators from across the university. Among the featured panels was a discussion on how diabetes can be fought with digital sensors, social networks and software.

Robert Ford, MBA, executive vice president of medical devices for Abbott, discussed new wearable technology that allows users to collect real-time data on glucose levels and other diagnostics, allowing them to monitor and optimize their health in real time.

“We’re just starting to scratch the surface of what’s possible with wearable technology,” Ford said.