Researchers developing ‘bionic suit’ to help people

By Erica Rheinschild

People with paraplegia — due to spinal cord injury may eventually get a chance to suit up, walk out the door and feel the ground beneath their feet, thanks to a five-year, $8 million Cyber-Physical Systems Frontier grant from the National Science Foundation. Awarded to three Southern California institutions — the Keck School of Medicine of USC, the University of California, Irvine (UCI) and Caltech — the grant will fund the development of a fully implantable brain-machine interface device that aims to restore the ability to walk and restore lower extremity sensation. The brain-machine device will transmit commands to a robotic exoskeleton for walking that will, in turn, transmit sensory information back to the brain.

“The restoration of walking is a very significant goal for patients after spinal cord injury,” says Charles Liu, MD, PhD, professor of clinical neurological surgery and principal investigator at the Keck School, and director of the USC Neuromodulation Center. “New solutions are possible with the recent advances in neuroprosthetics and regenerative medicine. We’re at the point where we can create solutions similar in concept to Tony Stark’s Iron Man suit, which is neurally integrated with him. Tony Stark’s brain interacts with the suit, and the suit interacts with his brain. Everything the suit feels, his brain feels. That’s the idea.”

The project will draw on the combined expertise of all the collaborating investigators. The first phase of the project sees ‘BIONIC SUIT’.

Pasadena Magazine honors Keck Medicine doctors

Keck Medicine of USC physicians continue to be recognized among the best in the region in an annual ranking of doctors in the San Gabriel Valley. In all, 364 physicians have been included in Pasadena Magazine’s 2017 roster of “Top Doctors,” representing 36 different specialties, including oncology, radiology, neurology, orthopaedic surgery, ophthalmology and cardiology.

The list includes faculty physicians from the Keck School of Medicine of USC, 45 of whom practice at Children’s Hospital Los Angeles or Los Angeles County + USC Medical Center. To be considered for inclusion in the list, physicians in the San Gabriel Valley and Los Angeles area were nominated and then voted on by their peers, who submitted confidential ballots. Doctors cannot pay to be included on the list.

Pasadena Magazine serves the greater San Gabriel Valley area. It has published the list since June 2008.

USC Roski Eye Institute celebrates new look for

By Leigh Bailey

University and hospital leaders gathered during a lively ceremony recently to celebrate the opening of the remodeled clinic space for the USC Gayle and Edward Roski Eye Institute. Keck School of Medicine of USC Dean Rohit Varma, MD, MPH, was joined by USC President C. L. Max Nikias, PhD, USC Trustee Edward Roski and Gayle Roski during the Sept. 7 celebration on the fourth floor of Healthcare Center 4.

Varma, who also serves as director of the USC Roski Eye Institute, presented opening remarks.

“This is a very special day for us because we are unveiling our newly remodeled eye clinic, and for this, we are deeply grateful to Gayle and Ed Roski, whose gift has allowed us to be in this new space,” Varma said.

Nikias added, “Together, we have celebrated many successes at the USC Roski Eye Institute, but today stands out as particularly special. This beautifully remodeled clinic is all about vision — saving it, preserving it and restoring it. You, the doctors and the staff who bring this clinic to life, stand at the forefront of these important efforts and are the finest in the nation.”

“Dean Varma and Dr. Mark Humayun, the clinic’s co-directors, have assembled a team of doctors and staff who are expert at lifting the clouds from our vision,” Nikias continued.

Nikias then expressed his profound gratitude to the Roskis for their vision and generosity. Gayle Roski, a noted artist in addition to her work as a philanthropist, was treated for her work as a philanthropist, was treated for

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Dinner offers chance to interact with community

By Virginia Baca

Faculty and staff from across Keck Medicine of USC are coming together to provide healthy meals to our local community. Each month more than 20 staff members, physicians and leaders from the Keck School of Medicine of USC and Keck Medicine spend an afternoon working together to purchase, prepare and serve dinner to more than 60 patrons of Proyecto Pastoral at the Dolores Mission. Proyecto Pastoral is a local nonprofit organization established to improve the quality of life in the Boyle Heights neighborhood. Proyecto Pastoral is associated with the Dolores Mission, which offers an elderly women’s shelter and adult men’s shelter.

Keck Medicine has an ongoing commitment through 2018 to provide nutritious meals to Dolores Mission patrons.

“Preparing the meals is not only a great opportunity to give back to the community; it is a chance to roll up your sleeves and work side by side with colleagues from across our medical enterprise,” explained Paul Craig, chief administrative officer for Keck Medicine. “At recent dinners we had faculty and staff participating from Keck Hospital, the Keck School, USC Norris and

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See ‘BIONIC SUIT’ [page 3]

See DOLORES MISSION [page 3]
Psychologist speaks on bisexual-positive clinical practice

By Amanda Busick

N oted psychologist, educator and advocate Mimi Hoang, PhD, spoke on the importance of creating a positive, accepting environment for bisexual patients in clinical practice and everyday life before a capacity crowd recently on the Health Sciences Campus.

Using historical information, statistics, research and her own experience as a bisexual clinician and LGBTQ community leader, Hoang, a professor of clinical psychology at Antioch University Los Angeles and staff psychologist at Loyola Marymount University, led the audience through some of the obstacles that bisexual people face. The Sept. 13 event was the latest installment in the Diversity Seminar Series, presented by the Keck School of Medicine of USC’s Office of Diversity and Inclusion.

Hoang listed common misconceptions, including that bisexuality equals promiscuity or promiscuity; that bisexuality is just a phase; and that bisexual people don’t maintain their orientation when in a monogamous relationship. She likened bisexuality to being ambidextrous; “just because you use your right hand or your left hand,” she began, “doesn’t mean that you don’t have that inner capability to use either hand.”

Hoang also shared some serious health issues that the bisexual community may encounter. Bisexual people have higher rates of anxiety and mood disorders, and higher occurrences of binge drinking and smoking. According to many studies, she said, bisexual women specifically experience higher rates of depression, eating disorders and suicide ideation than straight or gay women or men. In fact, the most basic health care communication can be challenging. More than a third of bisexual people do not disclose their orientation to their physician, out of fear of facing bias, erasure and discrimination. Clinicians, she said, must be aware of how their practice can be influenced by their personal experience.

“You need to have awareness about your own identity, and your own assumptions and biases. Is it your assumption that everyone who walks through your door is straight? Or your door is straight? Or your own assumptions and biases. Is it your assumption that they will tell you?” she asked. “Because if you ask them, you’re letting them know that you care and that you are comfortable talking about that topic.”

Hoang concluded her lecture with comments on how to be inclusive and not marginalize bisexual patients.

“Your job is beyond just numbers and diagnosing,” she said. “Your job is also about compassion, humanity and understanding diverse issues and communities.”

Calendar of Events

Monday, Sept. 25


Tuesday, Sept. 26


11 a.m. USC Stem Cell Seminar. “The Neural Cerevisia of Sex and Violence,” David Axelrod, PhD, Cedars. Eli and Edythe Broad CRISM Center Auditorium. Info: Crystal Lytly, blytly@med.usc.edu, http://stemcell.usc.edu/events/3 p.m.-6 p.m. USC Tina & Rich Carson Department of Otolaryngology – Head & Neck Surgery Seminar. “Identity, Function, Dysfunction, and Restoration of Sensory Transmission Channels in the Inner Ear,” Jeffrey R. Holt, PhD, Harvard Medical School, Eli and Edythe Broad CRISM Center Auditorium. Info: Jacqueline Jenner,(323) 442-5779, jennerm20@med.usc.edu


Wednesday, Sept. 27

11 a.m. USC/Armenian Seminar “New & Novel Development for pain”, Ryan Moyer Eli and Edythe Broad CRISM Center Auditorium. Info: Crystal Lytly, blytly@med.usc.edu, http://stemcell.usc.edu/events/3 p.m.-6 p.m. USC Tina & Rich Carson Department of Otolaryngology – Head & Neck Surgery Seminar. “Identity, Function, Dysfunction, and Restoration of Sensory Transmission Channels in the Inner Ear,” Jeffrey R. Holt, PhD, Harvard Medical School, Eli and Edythe Broad CRISM Center Auditorium. Info: Jacqueline Jenner,(323) 442-5779, jennerm20@med.usc.edu

Thursday, Sept. 28

Noon. USC Integrative Health Interest Group and USC Integrates for Integrative Health Talk. “Medicinal and Recreational Uses of Cannabis,” Christopher T. Mckibben; Lecture Hall 249; Info: Tbye Alling, (206) 315-2372, tbye@gmail.com


1 p.m. Center for Work and Family Life Workshop. “How to Manage Burnout and Compassion Fatigue in Ourselves and Staff.” Keck Hospital Silver Room 34. Info: Center for Work and Family Life, (213) 821-0880

4:30 p.m. Norris Medical Library Film Screening. “It’s Kind of a Funny Story.” Aresty Auditorium. Info: Karin Sans, (323) 442-1125; kears@usc.edu. RSVP: http://norris.usc.lib.libs.usc.edu/films/filmstory/funnystory

Friday, Sept. 29


Sunday, Oct. 1


Monday, Oct. 2

11 a.m.-1 p.m. The DHS Endocrinology Primary Care/Specialty Care Workgroup and USC Office of Continuing Medical Education. “4th Annual Los Angeles County Department of Health Services (DHS) Diabetes Day.” The California Endowment, 1000 N. Alameda St. Info: Lyndae Valenzuela, (323) 442-3515, secma@usc.edu, https://cmetracker.net/KC/KCUSC/ Catalog

Wednesday, Oct. 4


Noon. Keck Medicine Chief Patient Experience and Employee Engagement Officer. “We can’t do our work in a vacuum. Keck Medicine also hosts a weekly farmer’s market in Hazard Park each Tuesday. “It provides fresh fruits and vegetables for the local community. “We will open volunteer opportunities coming up that Keck Medicine faculty and staff can participate in to help our local community,” added Char Ryan, Keck Medicine Chief Patient Experience and Employee Engagement Officer. “We have events happening year-round.”

Upcoming opportunities include Bonne of Lore, which provides a complete Thanksgiving dinner to families over the holidays; Adopt a Family, which provides holiday presents to members of the community; and the annual holiday toy drive. Additionally, volunteers are needed to cook and serve food at Dolores Mission each month. For more information, contact Luzine. duryan@med.usc.edu.

DOLORES: offers chance to interact

Continued from page 1

Albaumans,” he added.

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Notice: Calendar items are due at least 10 days before publication date. Timely submission does not guarantee publication in print. See more calendar entries atuscnews.usc.edu/Shop/Maker-of-events. Submit items at hscnews.usc.edu/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.

In other news: "Medicinal and Recreational Uses of Cannabis," Noon.

Faculty and staff from the Keck School of Medicine of USC gathered recently to welcome John Oghalai, MD, as the new chair of the USC Tina and Rick Caruso Department of Otolaryngology – Head and Neck Surgery. Oghalai has been serving as chair since Aug. 1. The reception, which was held Sept. 8 on the Health Sciences Campus, included remarks from Oghalai, Rohit Varma, MD, MPH, dean of the Keck School, and Tom Jackiewicz, MPH, senior vice president and CEO of Keck Medicine of USC.

Baxter Foundation supports two new early research projects

By Adriana Cho and Zara Abrams

T
two junior faculty members at the Keck School of Medicine of USC have each been awarded $100,000 grants by the Donald E. and Delia B. Baxter Foundation. Crystal Marconett, PhD, from the Department of Surgery, and Hosung Kim, PhD, from the Department of Neurology, were chosen on the basis of their outstanding research during their time as assistant professors at the Keck School.

“The Foundation supports researchers at this early stage so that they can conduct innovative research that has strong future potential and could have a significant impact,” said Jane Haake Russell, director of the Baxter Foundation. “We are proud to support both Dr. Marconett and Dr. Kim, whose research we believe will lead to new therapies and approaches to disease prevention.”

Marconett’s lab is studying how a novel class of regulatory molecules, IncRNAs, affects the ability of cancer cells to repair DNA damage in lung cancer. She hypothesizes that LINCC00261, an IncRNA whose function is as yet unknown, works as a tumor suppressor gene and enhances cells’ ability to detect DNA damage as they prepare to divide.

Her lab has found that the reintroduction of LINCC00261 into lung cancer cell lines inhibited their mobility and growth, and turned on signals related to DNA damage.

“It is my hope that funds from the Baxter Foundation will enable us to leverage our basic science research insights into the function of LINCC00261 towards the development of novel therapies,” she said.

Kim received the grant for his research that aims to predict neurodevelopmental impairments in early childhood among preterm newborns by using Magnetic Resonance Imaging (MRI) technology to document and better understand the impact of prematurity-related brain injuries on neurological development. First, he’s developing specialized machine-learning algorithms to compute structural and networking features that characterize various aspects of early brain development. He’ll then use this software to predict language, motor, and cognitive outcomes two- to four years after birth.

“Even with existing treatments, up to half of preterm newborns develop deficits in motor function, language, or IQ,” he explained. “We may be able to predict these impairments using brain scans and eventually prevent them.”

Another $100,000 grant was awarded to the medical student summer research program, currently led by Nuria Pastor-Soler, MD, PhD, associate professor of medicine and assistant dean for research mentoring. The program has received this support from the Baxter Foundation for the past few years.

USC ROSKI EYE INSTITUTE: celebrates new look for clinic

Continued from page 1
carried out by Keck Medicine ophthalmologists, and as a result, “she and Ed resolved to find an institute with the most ambitious goal possible — to eliminate blindness,” Nikias said.

“With their support, the USC Roski Eye Institute is stronger than ever. It’s one of the top two funded eye institutes in the nation and a leader in research funding from the National Institutes of Health,” Nikias continued. “Its residency program runs in the top ten nationwide, and it just expanded for the first time in years. And in 2016 this institute, my fellow Trojans, treated more than 100,000 patients.”

“It’s an honor to help support people who will be behind the new breakthroughs in the future of this field,” Gayle Roski said. “And I want you to know that Ed and I are grateful for your presence here today and thankful for the work you do each and every day.”

Among the attendees to the event were USC Provost Michael Quick, PhD; Tom Jackiewicz, MPH, senior vice president and CEO of Keck Medicine of USC; and USC Trustee Glorya Kaufman. With the conclusion of the remarks, the Roskis officially unveiled the clinic’s striking signage and Varma invited attendees to tour the new, state-of-the-art facilities, which includes 31 rooms for patient care, an outpatient surgical area, labs, a staff lounge and more.

THE KECK EFFECT: MORE INSPIRATION

Facility and staff at the Keck School of Medicine of USC gathered recently to welcome John Oghalai, MD, as the new chair of the USC Tina and Rick Caruso Department of Otolaryngology – Head and Neck Surgery. Oghalai has been serving as chair since Aug. 1. The reception, which was held Sept. 8 on the Health Sciences Campus, included remarks from Oghalai, Rohit Varma, MD, MPH, dean of the Keck School, and Tom Jackiewicz, MPH, senior vice president and CEO of Keck Medicine of USC.

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Keck Medicine of USC

Beyond Exceptional Medicine
Holly Muir named co-chair of mirror department of anesthesiology

By Adriana Cho

Holly Muir, MD, chair and professor of anesthesiology at the Keck School of Medicine of USC, has been named co-chair of the Vladimir Zelman Department of Anesthesiology of the Novosibirsk State University (NSU) Institute of Medicine and Psychology in Russia, as a part of a collaborative project between the Keck School and NSU.

“I am truly excited to be a part of this international collaboration,” Muir said. “I believe this project will foster the growth of both anesthesiology departments and encourage the advancement of global health.”

The project, called the ZELMAN project (Zeal, Education, Labor, for National Health), is designed for mirror departments of anesthesiology and resuscitation at the Keck School and NSU, which is located in Siberia. Focusing on lectures, discussion of clinical cases and research aimed at international collaboration on mutual interests, the ZELMAN project strives to create bridges for humanity and health care across borders, according to project leaders.

To that end, the project will feature distance education opportunities, including lectures over Skype, an exchange of students and teachers, and remote working meetings with the heads of the two departments.

Andrey Pokrovsky, MD, PhD, dean of the NSU medical institute, and Sergey Astrakov, MD, PhD, chair of the Department of Anesthesiology at NSU, visited the Keck School this summer and met with leading educators to work on the comprehensive program.

“This is the first time that a mirror Department of Anesthesiology and Resuscitation has been established in Russia,” Pokrovsky noted. “In this project, the emphasis is on the educational process.”

The project was spearheaded by Vladimir Zelman, MD, PhD, clinical professor of anesthesiology (part-time) at the Keck School and honorary professor of the NSU Department of Anesthesiology. As a former student of NSU, Zelman wanted to give back to his alma mater, where he began his medical journey to become one of Siberia’s first anesthesiologists.

“USC is already well-known as a leader of international cooperation,” Zelman said. “Now the Keck School of Medicine will be on stage as a frontrunner in international medical education and life sciences.”

Program offers therapy for older adults,

Stepping Stones is a geropsychiatric program at USC Verdugo Hills Hospital that was designed to help relieve emotional and personal distress for individuals age 50 or older. Through inpatient and outpatient programs, the experts at USC-VHH employ a variety of therapeutic options, including cognitive behavioral therapy, psychosocial assessment, art, music and movement therapy to help patients.

The inpatient unit can accommodate 24 patients, while the outpatient program currently serves 40 patients, with capacity for 75. Outpatients generally attend three or more therapy hours a day for two to four days a week, depending on the need of the patient, for a duration of two to six months.

Stepping Stones provides one-on-one and small group therapy to help patients who are uncomfortable in larger group settings. Other techniques include recreational therapy, which involve going for walks and getting outside, patients also slowly learn to socialize again and interact with others.

“Socialization is a huge part of the process in getting patients back into having normal relationships with other people,” said Luke Jackson, MBA, JD, program director of Stepping Stones. “That’s a really important part of their recovery.”

By Ricardo Carrasco III, Nathan Cowen, Mary Dacuma, Hope Hamashige, Virginia Baca, Melissa Masatani, Virginia Baca, Michael Kelly, Lisa McEntire, Douglas Morino, Yasmine Peshkoeva, Larianna Puro, Pei Tsai, Zien Young and L. Alexis Young

HSC News

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