



Ricardo Carrasco III

The 2018 Tournament of Roses Royal Court visits patients at USC Norris Cancer Hospital.

Royal visitors bring smiles, roses

Patients at the USC Norris Cancer Hospital received a very special gift recently — tiny rose stickers given by real-life princesses as the 2018 Tournament of Roses Royal Court made its annual visit to the USC Norris Comprehensive Cancer Center on Nov. 21.

The Royal Court that visited patients, staff and faculty included queen Isabella Marez and princesses Alexandra Marie

Artura, Savannah Rose Bradley, Lauren Elizabeth Buehner, Georgia Jane Cervenka, Julianne Elise Lauenstein and Sydney Grace Pickering.

This year's visit also included a visit with Mary Yamashita, MD, assistant professor of clinical radiology at the Keck School of Medicine of USC, who demonstrated the new SoftVue 3-D, whole-breast ultrasound system.

Apprentice groups spread lessons globally

By Hope Hamashige

Fen Pang, MD, recently made the journey from China to Los Angeles to spend a week with the team from the USC Institute of Urology as part of the department's apprentice program. Pang, who hoped to advance his knowledge of robotic and laparoscopic procedures, said he chose to sign up for the program at Keck Medicine of USC because he wanted to learn from "the best urologic team in the world."

For the past three years, the USC Institute of Urology has been running weeklong, structured visits for visiting doctors like Peng under what it has dubbed the USC Urology Apprentice Program, which it offers to small groups of doctors seeking to learn urologic surgical techniques from one of the most experienced teams in the world.

"For us at USC, it is very important to share our knowledge and what we provide is a structured, weeklong immersion course," said René Sotelo, MD, professor of clinical urology at the Keck School of Medicine of USC.

Sotelo, who also is medical director of international medicine of Keck Medicine, explained that the department has long hosted visiting doctors who want to learn from the team of urologists at Keck Medicine, citing the group's depth of experience in robotic and laparoscopic procedures as well as cutting-edge techniques, such as using high-intensity focused ultrasound, or HIFU, in combination with robotic surgery to treat prostate cancer.

Sotelo added that the department created a formal program, offered six or seven

See **APPRENTICE**, page 3

Ostrow faculty, students offer urgent care

By Stephanie Corral

For nearly a week, Julia Fregoso experienced tooth pain so severe that she was unable to sleep, let alone eat or drink.

The pain, resulting from a molar she broke last December, landed Fregoso in the Herman Ostrow School of Dentistry of USC Urgent Care and Dental Trauma Center at the recommendation of her mother.

"The night after my extraction was the first night in almost a week that I actually slept throughout the night," Fregoso said. "Less than 24 hours later, I was able to eat and speak with no pain and little to no swelling. I'm feeling so much better!"

Fregoso is a textbook example of the kind of patients that walk into Ostrow's urgent care clinic, which is dedicated to the prevention, diagnosis and treatment of dental emergencies.

Under the supervision of faculty dentists, Ostrow dental students provide treatment at the clinic during

a required two-week rotation that is divided between their third and fourth year of dental school.

"We mostly get patients who have not had regular dental treatment, so the problem gets compounded over time, and the pain becomes unbearable," said Elieka Salamipour, a third-year student who recently finished her first one-week rotation.

On any given day, students can treat anywhere from 20 to 45 patients with a wide range of dental needs, such as root canals, extractions, cavities and cracked teeth.

"It's nonstop," Salamipour said. "You don't know who's going to come through the door or what the patient is going to need. The rotation does so much for developing and refining a dental student's approach to diagnosis and patient care."

Every week, approximately 10 students rotate through the clinic, where they assess and diagnose patients on their own before presenting their approach to

supervising faculty who are there to intervene or make recommendations, only if necessary.

The clinic's unique rotation format can largely be credited to its director, Ramon Roges, DDS, who also is an associate professor of clinical dentistry at Ostrow.

Roges believes the rotation teaches students invaluable skills such as time management because they see multiple patients and treat multiple conditions.

"They also get emergency dental treatment experience, which sooner or later they are going to need in their private practice," Roges said.

When students return to the clinic for their fourth-year rotation, Roges often sees a huge difference in their abilities.

"They have more self-confidence, they work faster and they know how to treat the patient," Roges said. "They also know how to communicate better."



Hannah Benet

Eric Chiccone provides treatment to Analine Sanchez, 58, who visited the Urgent Care and Dental Trauma Center complaining of jaw pain.

Medical student tapped for family medicine leadership program



American Academy of Family Physicians

Andrea Bañuelos Mota

By Claire Norman

Second-year medical student Andrea Bañuelos Mota has been selected as one of 30 nationwide awardees to participate in Family Medicine Leads (FML) Emerging Leader Institute. This opportunity is sponsored by the American Academy of Family Physicians (AAFP) and awards promising students the chance to be involved in a yearlong leadership development program.

Bañuelos Mota received a scholarship toward travel expenses to attend both the AAFP National Conference of Family Medicine Residents and Medical Students and the AAFP Foundation FML Emerging Leadership Institute. Additionally, Bañuelos Mota will complete a project focused on the subject of personal and practice leadership with her mentors from the Keck School of Medicine of USC: Jo Marie Reilly,

MD, professor of clinical family medicine (educational scholar); Jehni Robinson, MD, clinical associate professor of family medicine (clinician educator), vice chair for clinical affairs and acting chair for family medicine; and Stephanie Zia, MD, clinical assistant professor of medicine (clinician educator) and assistant dean for career advising.

Bañuelos Mota is a member of the Keck School of Medicine Primary Care

Program and the president of the Family Medicine Interest Group this year.

"I see a bright future for family medicine when our medical students are engaged in leadership endeavors in our community, in research and in organized medicine," Reilly said. "These student leaders are at the forefront of the transformational changes necessary to meet the primary care needs of our patients and communities."

See **LEADERSHIP**, page 3

Professor named fellow of esteemed scientific society

By Zen Vuong

A Keck School of Medicine of USC physician has been elected a fellow of the American Association for the Advancement of Science, an honor awarded to AAAS members by their peers. David Warburton, OBE, DSc, MD, MMM, professor of pediatrics, is joined by five fellow USC scientists in this year's class.

Founded in 1848, the nonprofit organization is the world's largest general scientific society. The group began the AAAS Fellows tradition in 1874 and publishes the journal *Science*.

This year 396 members will be named fellows because of their scientifically or socially distinguished efforts to advance science or its applications. The USC fellows are:

Warburton, for contributions to the field of pediatric medicine, particularly for work on lung development as it relates to maternal and infant health. Warburton is a world leader in global child health and regenerative medicine. He is a physician-scientist who leads the Developmental Biology, Regenerative

Medicine and Stem Cell Program at the Saban Research Institute, Children's Hospital Los Angeles. Warburton is a member of the USC Stem Cell Executive Committee.

Xiaojiang Chen, PhD, a professor of biological sciences and chemistry at the USC Dornsife College of Letters, Arts and Science, for contributions to the field of structural molecular biology, particularly for understanding viral and cellular DNA replication and genomic mutations. Chen's lab answers important questions in cancer biology and immunology.

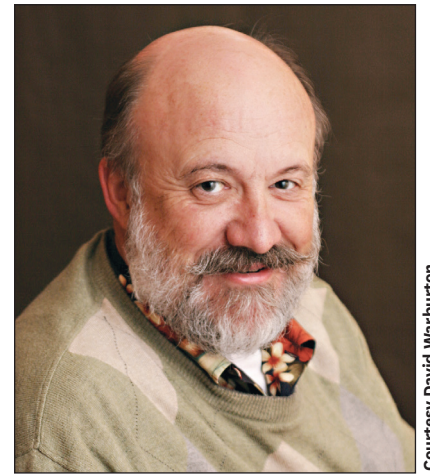
Karl Christe, PhD, a research professor of chemistry at USC Dornsife, for contributions to the field of synthetic inorganic chemistry, particularly in high-energy density materials. His research goal is to advance the state of the art. His lab strives for spectacular breakthroughs rather than settle for incremental improvements.

Petros Ioannou, PhD, the A.V. "Bal" Balakrishnan Professor of Electrical Engineering-Systems at the USC Viterbi School of Engineering, for

his contributions to adaptive control and intelligent transportation systems. He is the director of the Center of Advanced Transportation Technologies at USC and the associate director for research of METRANS, a University Transportation Center whose mission is to solve transportation problems in metropolitan regions. Ioannou's research interests include control and applications, vehicle dynamics and safety, and intelligent transportation systems.

Sven Koenig, PhD, a professor of computer science at USC Viterbi, for his contributions to the field of artificial intelligence, particularly planning, decision-making and coordination for robots and other situated agents. Koenig is interested in intelligent systems such as multi-agent and multi-robot systems that operate in large, non-deterministic, non-stationary or only partially known domains.

Paul Rosenbloom, PhD, a professor of computer science at USC Viterbi, for "seminal contributions to cognitive architectures and leadership in the artificial intelligence community."



David Warburton

Courtesy David Warburton

Rosenbloom is director for cognitive architecture research at USC's Institute for Creative Technologies. His focus is on the mechanisms that enable thought and how they combine to yield minds.

The new fellows will be presented with a certificate and a gold and blue rosette pin representing science and engineering on Feb. 17 at the 2018 AAAS Annual Meeting in Austin, Texas.

Graduate aims to build muscles without exercising

By Lauren Ekman

"I've always wanted to be in a textbook and impact the world," said Gio Suh, who is graduating in December 2017 from the master of science program in stem cell biology and regenerative medicine at the Keck School of Medicine of USC.

As an undergraduate and graduate student at USC, Suh made strides toward achieving his goal. During the summer after his sophomore year as a biomedical engineering student, Suh began studying cardiac and skeletal muscle when Megan McCain, PhD, assistant professor of biomedical engineering, first started her lab at the USC Viterbi School of Engineering.

In addition to helping



From left, Gio Suh and Lauren Ekman

McCain set up her lab, Suh successfully grew early-stage muscle cells that matured into muscle fibers, and maintained their survival for three weeks on gelatin.

Prior attempts had maintained these muscle

fibers for only one to two weeks.

"This platform will hopefully enable novel studies into skeletal muscle development and disease mechanisms, which can be used for several therapeutic

and clinical applications," Suh said.

He published this work in *Scientific Reports* in 2016, and has recently written a chapter in the textbook titled *Methods in Molecular Biology: Skeletal Muscle Development*, pending review.

Born and raised in Seoul, South Korea, Suh always had a curiosity for the sciences.

"I like learning how everything works," he said. "Science just explains everything."

At age 10, he moved to Irvine with his mother and sister, and began learning English.

To remind him of his family, Suh wears his grandfather's watch every day. Suh said his grandfather embodied perseverance and dedication by serving

as a general in the Korean military. Now, at the age of 92, he has severe dementia and Parkinson's disease.

To study similar debilitating neurological diseases, Suh currently is collaborating with the lab of Justin Ichida, PhD, assistant professor of stem cell biology and regenerative medicine at the Keck School to study ALS, as well as the lab of Carrie Miceli, PhD, at the David Geffen School of Medicine to study Duchenne Muscular Dystrophy.

After graduation, Suh aspires to work in the biotechnology industry while keeping an open mind to other scientific career paths.

"I'm not sure what lies ahead for me, but I'm always looking to the future," he said. "Stay tuned."

Calendar of Events

Friday, Dec. 1

8:30 a.m. Hastings Center for Pulmonary Research Seminar. "Pulmonary Lymphangiomyomatosis (LAM) A Monogenic Model of Malignancy," Vera P. Krymskaya, PhD, MBA, University of Pennsylvania. IRD 734. Info: Fereshta Saraj, (323) 409-7184, saraj@usc.edu

3:30 p.m. HEAL and TCORS Seminar. "Using Neuroscience to Shape Smoking Cessation Treatment and Tobacco Policy," Jason Oliver, PhD, Duke University School of Medicine. Soto 1 SSB 301. Info: Sydney Zarate, (323) 442-7222, szarate@usc.edu

4 p.m. Global Medicine Event. "Dinner and Movie to Commemorate World AIDS Day." Aresty Auditorium. Info: Gurmehar Brar, (818)983-7493, gbrar@usc.edu, <http://worldmedmsgm.org>. Event will include dinner and a screening of Philadelphia to mark World AIDS Day.

Saturday, Dec. 2

7 a.m.-3:35 p.m. Office of Continuing Medical Education. "Multiple Sclerosis Update Symposium." Hilton Pasadena. Info: Mayra Angulo, (323) 442-2555, uscme@usc.edu

Tuesday, Dec. 5

11 a.m. USC Stem Cell Seminar. Cheng-Ming Chuong, MD, PhD. Eli and Edythe Broad CIRM Center Auditorium. Info: Cristy Lytal, lytal@med.usc.edu, <http://stemcell.usc.edu/events>. Live webcast at keckmedia.usc.edu/stem-cell-seminar.

1 p.m.-6 p.m. Zilkha Neurogenetic Institute Lecture. "8th Annual Zach Hall Lecture," John O'Keefe, PhD, University College London. Mayer Auditorium. Info: Emily Chu, (323) 442-3219, Emily.Chu@med.usc.edu

Wednesday, Dec. 6

Noon. The Saban Research Institute Seminar. "Aire Expands: Lesson From APS1 and Beyond," Maureen Su, MD, UNC School of Medicine. Saban Research Building Auditorium, 4661 Sunset Blvd. Info and RSVP: Sandy Wang, (323) 361-7489, tecpad@chla.usc.edu

Noon. Southern California Clinical and Translational Science Institute. "Digital Scholar Webinar Series: Accelerating Systematic Review Studies Using the Online Tool Covidence," Anneliese Arno, MSc,

Covidence. Info: Katja Reuter, katja.reuter@med.usc.edu. RSVP: <http://bit.ly/2w7cLNK>

Thursday, Dec. 7

12:30 p.m. SC CTSI and the Keck School of Medicine of USC Workshop. "Lunch & Learn: Biostatistics Workshop, Sample Size and Study Power: Why Do I Need So Many Subjects? What Will My Biostatistician Need to Know and How Can I Get That Information?" Harlyne J. Norris Cancer Research Tower, (NRT). Info and RSVP: Aileen Dinkjian, (323) 442-1087, aileen.dinkjian@med.usc.edu, <http://bit.ly/2y2b9sl>

Friday, Dec. 8

6:30 a.m. Anesthesiology Grand Rounds. "Digital Quality Improvement and Perioperative Medicine: Should We Fear Computers or the Lack of Them?" Maxime Cannesson, MD, PhD, David Geffen School of Medicine, UCLA. McKibben Lecture Hall Room 256. Info: Renee Meadows, (323) 409-6856, rmeadows@med.usc.edu

8:30 a.m.-5 p.m. Alzheimer Disease Research Center Symposium. "First Annual Finch AD Symposium." Herklotz Seminar

Room, ZNI 112. Info: Hussein Yassine, (323) 442-1909, hyassine@usc.edu

Tuesday, Dec. 12

11 a.m. USC Stem Cell Seminar. Lori Sussel, PhD, University of Colorado, Denver. Eli and Edythe Broad CIRM Center Auditorium. Info: Cristy Lytal, lytal@med.usc.edu, <http://stemcell.usc.edu/events>. Live webcast at keckmedia.usc.edu/stem-cell-seminar.

Friday, Dec. 15

7:30 a.m.-4:45 p.m. Office of Continuing Medical Education. "2nd Annual Southern California Kidney Symposium: The Kidney at the Crossroads of Whole-Body Health and Disease." Eli and Edythe Broad CIRM Center Auditorium, Seminar Room 101 (1st Floor). Info: Mayra Angulo, (323) 442-2555, uscme@usc.edu

8:30 a.m. Hastings Center for Pulmonary Research Seminar. "Positive Feedback Loops Potentiating Pulmonary Fibrosis," Richard H. Gomer, PhD, Texas A&M University. IRD 734. Info: Fereshta Saraj, (323) 409-7184, saraj@usc.edu

Notice: Calendar items are due at least 10 days before publication date. Timely submission does not guarantee publication in print. See more calendar entries at hscnews.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.

John Oghalai discusses experience, goals for otolaryngology department

John S. Oghalai, MD, joined the Keck School of Medicine of USC on Aug. 1 from Stanford University School of Medicine. He specializes in caring for patients with diseases of the ear and skull base. He recently spoke with *HSC News* about his background and what his plans are for the department.

Why did you choose otolaryngology?

I love the mix of surgery and clinical care found in otolaryngology and head and neck surgery. The anatomy of the head and neck is incredibly complex, and this makes the surgery quite delicate and beautiful. Most importantly, so much of what we take in around us through our senses comes through the head and neck region; it is literally how we experience and survive in the world. Diseases of the head and neck greatly affect our ability to experience life, so the care that an otolaryngologist provides is often quite meaningful to our patients. We form a special bond with our patients and I enjoy this aspect of the specialty.

What is something you think people should know about otolaryngology that might be a surprise to learn?

Unfortunately, there are many diseases in our specialty that we understand and manage, but cannot cure with modern medicine. Hearing loss is probably the most common one. One might think that hearing aids compensate for hearing loss, but in fact, they make sounds louder but they don't make words clearer and easier to understand. This is the key issue that I believe research will be able to overcome in the near future.

Why did you choose the Keck School?

This school is on the verge of a major jump in its academic rankings. It is



John S. Oghalai

Ricardo Carrasco III

part of an incredible university that has seen remarkable changes in many other schools, and these advances are now occurring at the Keck School. Furthermore, Keck Medicine of USC is located in the middle of a vast patient base. This means that translational research to bring novel treatments to patients is not only possible here, but relatively easy. I think that testing new treatments in patients is where the excitement is and I am thrilled to be able to help lead this effort.

What are your plans for the department?

The USC Tina and Rick Caruso Department of Otolaryngology – Head and Neck Surgery is strong, but we can improve further. A key goal is to expand basic and translational research in all subspecialty areas. Clinical services also will be grown to accommodate the increasing need for subspecialty otolaryngology care in Los Angeles. We will enhance our strong educational programs for otolaryngology residents and for medical students.

Scientist is writing a recipe for a kidney

By Cristy Lytal

USC Stem Cell scientist Zhongwei Li, PhD, could have gone into the family restaurant business. Instead, he's dedicated his career to experimenting with a very different set of ingredients: kidney stem cells.

"The kidney is a very important organ, and it is also a very fragile organ," said Li, assistant professor of medicine and stem cell biology and regenerative medicine at the Keck School of Medicine of USC. "More than 10 percent of people develop chronic kidney diseases and 80 percent of people who need organ transplantations actually need kidneys."

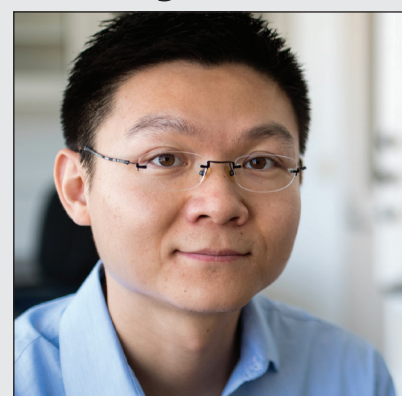
The first scientist in his family, Li grew up in Chongqing, China, the birthplace of hot pot. His father was a famous Szechuan-style chef, while his mother helped run the family restaurant. But Li's tastes always ran to biology.

"At a very young age, I was fascinated by the question of how a fertilized egg can become a live animal with so many different kinds of cell types," he said.

Inspired by such questions, he obtained a bachelor's degree in biotechnology from Sichuan University. As a PhD candidate at Tsinghua University, he studied the signals that guide stem cell behavior in the laboratory of Ye-Guang Chen, PhD.

He then undertook his postdoctoral training at the Salk Institute in the laboratory of Juan Carlos Izpisua Belmonte. As a postdoc, Li concocted a cocktail of molecules that encourages the growth of kidney stem cells in the laboratory, opening new avenues for the study of kidney development, disease and regeneration.

As a new assistant professor



Zhongwei Li

Cameron Quon

at the Keck School, Li will use stem cell and bioengineering technologies to build mini-kidneys, called organoids, in the laboratory. The near-term goal is to use these organoids to test potential drugs to treat kidney disease. The long-term goal is to further develop the organoids into functional kidneys for transplantation into patients.

"Kidney transplants are very limited and many patients die while they're still waiting for organs," Li said. "So there's an urgent need for us to find alternative ways to replace the kidneys."

Li emphasizes that building a kidney will require the collective efforts of many scientists from different research fields and he believes that USC provides the ideal environment for reaching across disciplines. As a new faculty member, he looks forward to collaborating with colleagues from the Keck School and the USC Viterbi School of Engineering.

"USC is a perfect place to study the kidney," he said. "I'm very excited to have the opportunity to interact with the kidney research community here at USC and I'm sure that we can work together to move forward with kidney research."

APPRENTICE: Participants attend lectures, observe surgical procedures

Continued from page 1

times a year, to provide the best possible experience in a short amount of time. Apprentices, who pay to participate in the program, can opt to stay for an additional week of observation at no extra charge.

During the week they spend on the Health Sciences Campus, the apprentices attend several lectures given by Keck School faculty. They observe up to 30 live robotic, laparoscopic and open surgeries, as well as practice on simulators under faculty member supervision. At the end of a week of intensive

training, they are sent home with materials, including a series of videos, which they can share with their colleagues at home.

Colin Teo, MD, another recent apprentice from Singapore, said the program, which teaches doctors how to improve upon existing procedures as well as train them in leading-edge techniques, helps to improve urology care around the world.

"I think USC is helping to bring up the standard of care in urology in the world," Teo said.

LEADERSHIP: Students, residents will be eligible for further awards

Continued from page 1

At the end of the year, the projects from the 30 participants will be evaluated and an additional scholarship will be given to the top two medical students and the top two family medicine residents in each of three research tracks. The winners then will present their winning projects at the next national conference. The Best Project Award will be named in each

of the three tracks with an additional scholarship to participate in a major event related to that subject area.

"My hope is that I walk away from this experience with greater insight on how I can tap into my own potential and that of my peers to mobilize entire communities toward achieving better health and health outcomes," Bañuelos Mota said.

Fellowship backs pulmonary research

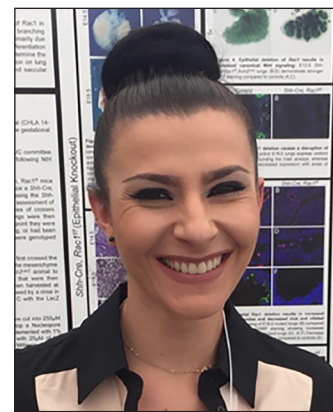
By Hope Hamashige

Soula Danopoulos, PhD, has been named the first recipient of a postdoctoral fellowship from the Hastings Center for Pulmonary Research (HCPR) at the Keck School of Medicine of USC.

HCPR was established in 2014 with a gift from the Hastings Foundation and unites important basic and translational lung research with clinical care under a single umbrella at Keck Medicine of USC.

The HCPR fellowship will support Danopoulos' research on lung development and identifying those factors in human lung development that differ from mice. Danopoulos has identified a double positive progenitor cell population that exists in humans, but does not exist in mice, and appears to have an important role in promoting adequate human lung branching morphogenesis.

As with other fields of medical research, mice are important models in pulmonary disease research and in testing new therapies. Understanding the ways in which humans and mice develop lungs differently should help other scientists



Soula Danopoulos

Courtesy of Soula Danopoulos

interact with others through symposia and meetings at Keck Medicine, which helps foster collaborations," Danopoulos said. "This is especially important for someone junior in my position."

Zea Borok, MD, professor of medicine and Ralph Edgington Chair in Medicine at the Keck School, said that launching this fellowship program, which provides funding for up to two years, helps to fulfill one of HCPR's core missions, which is to provide training and career development for young researchers in the field.

"Advanced lung disease affects millions of people, many with limited treatment options. Elucidating mechanisms underlying human lung development and how such developmental programs go awry is key to advancing therapies for patients with lung disease," said Borok, who also is director of the HCPR. "We believe Dr. Danopoulos will shed light on an important developmental process, which will ultimately lead to research advances for many important pulmonary diseases."

better interpret the results of their research.

"Understanding the differences between humans and mice will increase translational power," Danopoulos said. "Identification of differences and similarities between mouse and human lung development likely will improve the translational potential for mouse studies and ultimately develop novel therapeutic targets for human lung diseases."

Danopoulos said she is grateful for the funding for her research and for the support of the community of lung researchers who are brought together by the Hastings Foundation.

"The Hastings Foundation helps people in this field

HSC Newsmakers

A roundup of news items related to Keck Medicine of USC, which may include philanthropic donations, research grants, publication in academic journals and mentions in the news media:



Ed Carreon

Students can apply for a master's degree in biopharmaceutical marketing, a new program offered by the USC School of Pharmacy.

USC School of Pharmacy opens new master's degree

THE USC SCHOOL OF PHARMACY now offers a Master of Science in Biopharmaceutical Marketing. The first-of-its-kind program builds core knowledge and strategic skills for success in the biopharmaceutical industry, emerging devices and diagnostics, managed care and other health-related ventures. The interdisciplinary degree provides advantages to students looking to begin a career in the health care industry, as well as for busy professionals seeking a career advance. "This new master's degree exemplifies the School of Pharmacy's dedication to widening the scope of professional opportunities for our students, while keeping ahead of evolving trends in the health care industry," Dean Vassilios Papadopoulos, DPharm, PhD, said. "It provides foundational knowledge and experience from which students can build success in the sector." — Michele Keller



Courtesy Cecilia Pyszow

Keith Hobbs, center right, accepted the Crescenta Valley Chamber of Commerce 2017 Business of the Year Award.

USC Verdugo Hills Hospital named Business of the Year

THE CRESCENTA VALLEY CHAMBER of Commerce has named USC Verdugo Hills Hospital the 2017 Business of the Year. The prestigious awards honoring outstanding people and organizations in the community are named each year by the Crescenta Valley Chamber of Commerce. USC-VHH CEO Keith Hobbs accepted the award on behalf of the hospital during an award ceremony, held Oct. 26 at the Oakmont Country Club. — Douglas Morino



Ricardo Carrasco III

Keck Medicine of USC employees listen to a presentation during the Interprofessional Research Poster Symposium.

Employees share work at poster symposium

KECK MEDICINE OF USC EMPLOYEES SHARED a variety of clinical outcomes and professional accomplishments during the Interprofessional Research Poster Symposium, held Nov. 15 at Keck Hospital of USC. Employees were invited to display a poster showcasing program improvements, translational research and clinical outcomes. The event is held annually by the Interprofessional Education and Development Council.



Ricardo Carrasco III

RAISING TROJAN SPIRIT AHEAD OF RIVALRY GAME: The Spirit of Troy paid a visit to the Health Sciences Campus recently for a Beat the Bruins rally. The USC Trojan Marching Band performed for faculty, staff and patients gathered near the Willametta Keck Day Healthcare Center (HC2) on Nov. 17, the day before the USC Trojans football team played against the UCLA Bruins at the Los Angeles Memorial Coliseum. The Trojans won the game, 28-23.

One-size treatment for blood cancer probably doesn't fit all, researchers say

By Zen Vuong

Though African-American men are three times more likely to be diagnosed with a blood cancer called multiple myeloma, most scientific research on the disease has been based on people of European descent, according to a study led by researchers at the Keck School of Medicine of USC.

That trend is problematic considering that African-Americans — the most at-risk population for multiple myeloma — have different genetics that can affect how this type of cancer progresses and what kind of targeted therapies are most effective, said Žarko Manojlovic, PhD, assistant professor of research translational genomics at the Keck School and lead author of the study.

For example, in the study, multiple myeloma patients of European descent were six times more likely than their African peers to have mutations in the *TP53* gene, a tumor suppressor that helps prevent cancer. African-Americans, on the other hand, experienced heightened mutations in *BCL7A*, a different tumor suppressor gene.

"A cancer therapy that targets *TP53* would not be as effective for African-Americans with multiple myeloma as it would be for a white population because doctors would be trying to fix the wrong mutated gene," said Manojlovic, who also is director of Keck Genomics Platform at the Keck School.

The study was published on Nov. 22 in *PLOS Genetics*. Researchers analyzed the genetic sequencing data of 718 multiple myeloma patients and found that African-Americans had increased mutations in the genes *BCL7A*, *BRWD3* and *AUTS2*, while white people had more mutations in the genes *TP53* and *IRF4*.

The study is the largest and most ethnically diverse genomics study of multiple myeloma to date, the researchers said.

The scientists genetically



istock

New research shows African-Americans — the most at-risk population for multiple myeloma — have different genetics that can affect how this type of cancer progresses and what kind of targeted therapies are most effective.

analyzed the ancestry for all patients and found that 127 patients were of African descent and 591 were of European descent.

"There are clearly molecular differences between African-American and Caucasian multiple myeloma cases, and

it will be critical to pursue these observations to better improve clinical management of the disease for all patients," said John D. Carpten, PhD, professor and chair of translational genomics at the Keck School and senior author of the study.

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HSC News

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Next Issue:
December 15