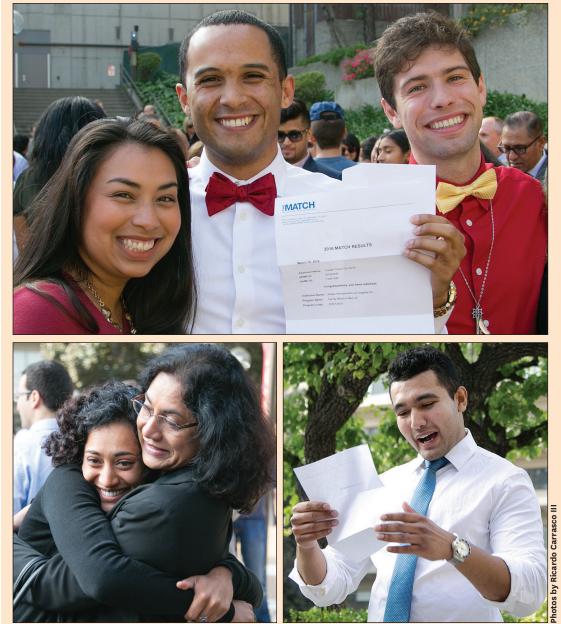
HSC News

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Students celebrate with friends and family on March 18 as they learn where they will be spending their residency.

Match Day 2016 brings excitement, tears of joy

By Amanda Busick

Loud cheering echoed through the Harry And Celesta Pappas Quad at 9:01 a.m. March 18 as 163 Keck School of Medicine of USC seniors simultaneously ripped open envelopes that told them where they are spending the next few years of their lives.

The students and their families were celebrating Match Day 2016, when graduating medical students learn where they will Kelly's mother, Theresa Jones. "We live in Orange County and she'll be staying close by, so she can drop by and see us whenever she has a free moment."

The Joneses were all smiles, including her father and cousin, who also joined for the happy day.

This year was the largest Match Day yet, with 18,668 seniors getting matched with residency programs at hospitals nationwide through the National Resident Matching Program. At the Keck School, 163 students were matched. Of those matched, 123 will complete all or part of their training in California, and 46 will be at LAC+USC for at least part of their residency. For the first time, Texas was the second most-popular state with nine matches, beating out the usual second-place state of New York.

Study: Gene key in human kidney growth

By Cristy Lytal

The best laid plans of mice and men are a bit different — at least when it comes to kidney development. Compared to a mouse, a human has nearly 100 times more nephrons, the functional units of the kidneys. Humans may owe these abundant nephrons to a gene called *SIX1*, according to a new paper published in the journal *Development*.

In the paper, USC Stem Cell researcher Lori O'Brien, PhD, from the laboratory of Andy McMahon, PhD, and her colleagues noticed that while *Six1*, the gene's rodent designation, plays a fleeting and early role in mouse kidney development, it might have a more substantial role in human kidney development. This research could shed light on how a certain type of pediatric kidney cancer develops.

In the developing mouse, where around 13,000 nephrons are generated over a two-week span, *Six1* ceases its activity by the time the kidney has grown its first branches

See **KIDNEY**, page 2

Meet the Faculty: Steven D. Colquhoun, a surgeon with wings

Steven D. Colquhoun, MD, professor of clinical surgery, is a renowned expert in transplant surgery, specializing in liver transplantation and hepatobiliary surgery. When he's not on the job, he keeps active in a variety of ways, some earthbound and others a bit loftier in nature.

"A few years ago, my wife and I took up running quite a lot — mostly half marathons. We go skiing every year and wakeboarding every summer with our son. Recently, I took up flying. I bought a small airplane in Anchorage and flew it down to Los Angeles."

He also has interest in wings of another variety. "We built a chicken coop in the backyard as a little father-son project several years ago. Although he's now off in college, we still have five to six chickens at a time, and they produce about an egg a day. We're always giving them away!"



be going to complete their residencies. It is a day full of excitement, emotion and even introspection.

Class co-president Kelly Jones, who just a few minutes later found out she had matched with her first choice of Los Angeles County + USC Medical Center, stated in her opening remarks that, "today is so much about looking forward, but we also hope it allows us to appreciate how far we've come as we've grown into our roles as physicians."

"I'm so excited, I can't even tell you," said

Top Specialties

Here are the most popular specialties for Keck School students in 2016:

- 30 Internal Medicine
- 19 Emergency Medicine
- 17 Family Medicine
- 14 Anesthesiology
- 13 Pediatrics
- 11 Obstetrics and Gynecology

Dean Carmen A. Puliafito, MD, MBA, walked around Pappas Quad after the students opened their envelopes, taking in the excitement of the morning.

"I think the Keck School is an outstanding medical school with a great reputation," he said, "and it's reflected in where our students matched, at many of the leading medical centers around the United States."

Joseph De Sena was surrounded by friends and mentors, celebrating his match at Kaiser Permanente Los Angeles for family medicine. He said the morning was overwhelming.

"When I was in line and walking closer to my envelope, I felt the nerves building," De Sena said. "As soon as I opened it, I instantly

See MATCH DAY, page 3

In addition to being a professor of clinical surgery, Steven D. Colquhoun is a pilot and raises chickens in his backyard.

Get to know the faculty members on the Health Sciences Campus and beyond!

Do you have a special skill or interest that nobody expects? Is there a professor whose hidden talent should be celebrated?

Let us know by emailing hscnews@usc.edu with your nominations for our new Meet the Faculty feature and you might see them in a future issue of *HSC News*.



The USC Institute of Urology led a recent urology symposium at the Sir H. N. Reliance Foundation Hospital and Research Center, located in Mumbai.

Institute shares robotic surgery expertise in India

By Sara Reeve

Building on its relationship with the Sir H. N. Reliance Foundation Hospital and Research Center located in Mumbai, the USC Institute of Urology led an international urology symposium at the hospital Feb. 20-21. The symposium focused on advances in robotic surgery for urology cases and featured live surgeries, case study presentations and lectures.

During one of the live surgeries, Inderbir S. Gill, MD, founding executive director of the USC Institute of Urology, performed a partial nephrectomy to remove a cancerous tumor on a patient's kidney. Prior to the surgery, Gill and his team utilized a 3-D printed model of the patient's kidney to prepare for the complexities of the procedure.

"Such 3-D models help us to explain the nuances of the surgery to the patient," Gill explained. "Also, junior surgeons and students learn better. We have also developed a simulator, which is patient-specific, that allows the doctor to operate on the 3-D model before operating on the real organ."

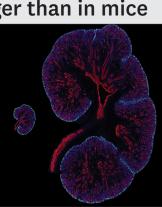
The conference was chaired by Gill, who was accompanied by Monish Aron, MD, professor of clinical urology and co-director of robotic surgery and advanced laparoscopy at the USC Institute of Urology. A total of 20 national and international faculty members spoke at the seminar.

"Cases of urological cancers, especially prostate cancer, are on the rise in India," said Gustad Daver, MD, medical director, Sir H.N. Reliance Foundation Hospital. "Robotic surgery has revolutionized minimal access surgery, especially in the field of urology. Working with the USC Institute of Urology to offer this international symposium is our effort to bring the best international practices to Mumbai for citizens of India."

KIDNEY: *SIX1* gene present in human development for longer than in mice

— right at the beginning of the two weeks.

In the developing human, where around one million nephrons are formed over a 30-week period, SIX1 remains present well beyond the initial round of branching. Now that the researchers have proven that SIX1 lingers in the developing human kidney, the next step will be to determine what exactly it's doing there. The researchers suspect that SIX1 is helping expand the population of progenitor cells that give rise to nephrons, but they still need to do further experiments to confirm their hypothesis. By learning more about this process, the researchers hope to better understand both normal development and a type of pediatric kidney cancer, called Wilms' tumor, which is associated with SIX1 mutations. "The results of this study have highlighted the importance of examining human development, and continuing to question what knowledge we have gained from models such as the mouse," O'Brien said. "We may find significant differences, such as in the case of SIX1, that have meaningful effects on both development and disease and will be impor-



Health sciences schools improve, maintain rankings

By Health Sciences Staff Recently released rankings from U.S. News & World Report show USC's health science graduate schools remain among the best in the nation, improving or maintaining their prestige in the annual lists.

The Keck School of Medicine of USC, the USC Chan Division of Occupational Science and Occupational Therapy, the USC Division of Biokinesiology and Physical Therapy and the USC School of Pharmacy all saw their rankings improved or maintained in the 2017 Best Graduate Schools list, released March 16.

For the second consecutive year, the Keck School was ranked 31st in research, reflecting the school's continued prominence among the nation's best educators for future physicians, as well as its commitment to advancing the field of medicine.

"The Keck School's national ranking remains in its highest position ever, a testament to the caliber of our transformative clinician researchers and innovative programs," said Carmen A. Puliafito, MD, MBA, dean of the Keck School of Medicine. "Together with the best and brightest medical students, we will become one of the top medical schools for research in the country."

The USC Chan Division of Occupational Science and Occupational Therapy is ranked No. 3 in the latest rankings of the nation's occupational therapy graduate educational programs. Since the rankings began in 1998, USC Chan has continuously been ranked among the top three.

Meanwhile, the USC Division of Biokinesiology and Physical Therapy retained its No. 1 ranking in physical therapy, which it has earned since 2004. This year's top ranking is shared with the University of Delaware, the University of Pittsburgh and Washington University in St. Louis.

"We are, of course, pleased to be ranked No. 1 again," said James Gordon, EdD, associate dean of the division. "Although the importance of rankings may sometimes be overstated, it is significant that our efforts to be the very best in education, research and clinical practice are recognized by our peers across the nation."

The USC School of Pharmacy remains the nation's top-ranked private pharmacy school and the top-ranked pharmacy school in Southern California with its No. 9 ranking, an increase from its previous No. 10 ranking.

"I am incredibly proud of the work that our talented faculty, staff and students at USC School of Pharmacy do every day as we seek to achieve our mission of leading pharmacy education in California and across the nation," said Interim Dean Glen L. Stimmel, PharmD. "We're shaping the future of pharmacy practice, integrative research and educational excellence, and our efforts have been recognized by our peer schools of pharmacy across the country."

U.S. News & World Report compiles its rankings based on surveys from academic representatives across the nation, as well as criteria that includes student selectivity and research grants.

Calendar of Events

Friday, March 25

Noon. USC Women in Management Luncheon. "A Clear Path: My Journey Into Junk," Regina F. Lark, NAPO-LA. IRD Building, Room 305. Info and RSVP: Ginger Mayerson, (323) 384-6049, mayerson@usc.edu, http://uscwim.org. \$18 WIM members; \$20 non-members. Cost includes lunch.

Monday, March 28

Noon. Department of Medical Education Seminar. "Faculty Development Seminar: Engaging Learners in a Large Group," Dixie Fisher, PhD. KAM 206. Info and RSVP: Cris Argosino, (323) 442-2746, argosino@usc.edu, http://bit.ly/10ijrt9

Tuesday, March 29

nage by Lori O'Brien

5:30 p.m. Ophthalmology Grand Rounds. Walid F. Abdallah, MD, PhD. HC4 Conference Room, 6th Floor. Info: Tyaisha Christopher, (222) 400 5222, http://www.sci. and Medicine: Experiments and Explorations," Berislav Zlokovic, director, Zilkha Neurogenetic Institute. Mayer Auditorium. Info: http://visionsandvoices.usc.edu

5 p.m. USC School of Pharmacy Lecture. "USC John Biles Speaker Series on Leadership," Heather Bresch, Mylan. PSC 112. Info: Cheryl Stanovich, (323) 442-1738, cstanovic@usc.edu. RSVP: http://usc.edu/esvp Code: leadership

Friday, April 1

Noon. Department of Medical Education. "Faculty Development Seminar — Feedback for Performance Improvement," Win May, MD, PhD. KAM 206. Info and RSVP: Cris Argosino, (323) 442-2746, meded@med.usc.edu

Saturday, April 9

7 a.m.-3:30 p.m. USC Multidisciplinary Lung Cancer Continuing Medical Education. "Lung Cancer in 2016: Multidisciplinary Update," Daniel Oh, MD. Westin Pasadena Hotel. Info: Anika Bobb, (323) 442-2547, usccme@usc.edu. Registration: http://www.usc.edu/cme

Embryonic day 15.5 mouse kidney next to a 15.5 week human fetal kidney with SIX2 (cyan) marking the nephron progenitor cells.

tant for driving regenerative strategies."

O'Brien performed this research as the first of USC's series of Broad Fellows, exceptional senior postdoctoral researchers at the transition point to starting their own stem cell laboratories. The study perfectly positions O'Brien to launch a career as an independent investigator in the near future.

In tandem with O'Brien's fellowship from The Eli and Edythe Broad Foundation, the work was supported by National Institutes of Health grants DK054364 and DK094526, and a graduate student fellowship from the California Institute for Regenerative Medicine (CIRM) to co-author Qiuyu Guo. (323) 409-5233, http://usceye.org

Wednesday, March 30

Noon. The Saban Research Institute. "Research Seminar: IBD at the Interface of Microbes, Immunity and Regeneration," Brent Polk, MD. Auditorium, Saban Research Building. Info: Ritu Gill, (323) 361-8715, tecpad@chla.usc.edu, http://chla.org/tecpad

5 p.m. USC Regulatory Science. "USC International Center for Regulatory Science Information Session," CHP 106. Info: Laura Sturza, (323) 442-3102, regsci@usc.edu. RSVP: http://regulatory.usc.edu

Thursday, March 31

4 p.m. Visions and Voices Discussion. "Music

Saturday-Sunday, April 9-10

All day. Los Angeles Times Festival of Books. University Park Campus. Volunteers sought for the Keck Medicine of USC Health and Wellness Pavilion. RSVP: Breeann.rapan@med.usc.edu

Wednesday, April 13

Noon. USC Institute for Global Health Lecture. "Global Health Choices: Disease Eradication, Elimination, Control or Neglect?" Daniel Tarantola, MD. Gould School of Law (LAW) Room 101. Info: Larissa Puro, (323) 442-7233, puro@usc.edu, http://bit.ly/1XBeJgR

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.



Stem cell researchers, from left, Hsiang-Ying Lee, Sergei Doulatov, Leonardo Morsut, Alexander Pollen and Joan Font-Burgada.

Mini-symposium introduces next-generation researchers

By Cristy Lytal

he next generation of scientists is turning to stem cells to advance our understanding of systems ranging from the blood to the brain, from the liver to the lungs. Six of these scientists presented their research at the Junior Faculty Candidate Mini-symposium hosted by USC's Department of Stem Cell Biology and Regenerative Medicine, held Feb. 10 and March 8.

Alexander Pollen, PhD, from the University of California, San Francisco, addressed a chapter in the history of life on Earth: the evolution of the human brain over the last six million years. He discussed how neural stem cells contribute to brain development, how a particular genetic variation may be responsible for increasing brain size and improving learning in humans, and how scientists can use stem cells to learn more about this complex organ.

Sergei Doulatov, PhD, from Boston Children's Hospital and Harvard Medical School, explained how to use stem cells to model anemia in a petri dish. He exposed these cells to drug-like compounds, one of which suggested a way to treat a form of the disease known as Diamond-Blackfan anemia.

Hsiang-Ying (Sherry) Lee, PhD, from the Whitehead Institute for Biomedical Research, offered an equally sanguine view of the potential of blood progenitor cells to treat anemia. She described how environmental and molecular

signals trigger these progenitor cells to self-renew by replicating themselves, or to differentiate into red blood cells and other mature cells.

Joan Font-Burgada, PhD, from the University of California, San Diego, discussed another regenerative cell type: liver cells, which are helpful when they repair injuries, but harmful when they cross the line into cancerous proliferation. He identified a group of highly regenerative liver cells, dubbed hybrid hepatocytes, with great potential for transplantation to treat liver disorders. He also illuminated the genetic signals that unleash cholangiocarcinoma, an aggressive bile duct cancer.

Purushothama Rao Tata, PhD, from Massachusetts General Hospital, also touched on the nexus between regeneration and cancer. He highlighted how lung cells maintain a high degree of "plasticity," or the ability to become other cell types in health, injury, and cancer development, also known as tumorigenesis.

Expanding the conversation to the field known as "synthetic biology," Leonardo Morsut, PhD, from the University of California, San Francisco, introduced "synNotch," a group of synthetic signals that can direct the behavior of cells. Eventually, synNotch or a similar system could enable scientists to engineer and study tissues with special properties, such as enhanced injury resistance or regenerative capacity.



The 2016 Match Day ceremony included speeches and a champagne toast.

MATCH DAY: Students praised faculty, administrators for guidance, mentorship Continued from page 1

broke into tears and I was so happy."

De Sena praised the faculty and administration at the Keck School for supporting him throughout his student career.

'Since Day 1, (Assistant Dean for Student Diversity Althea Alexander) has been a second mother to me, any questions I had or anything I needed, she was there for me," he said. "I also did a pediatric surgery rotation at Children's Hospital Los Angeles and worked with (Vice Dean for Medical Education Henri Ford, MD, MHA), who is an amazing mentor.'

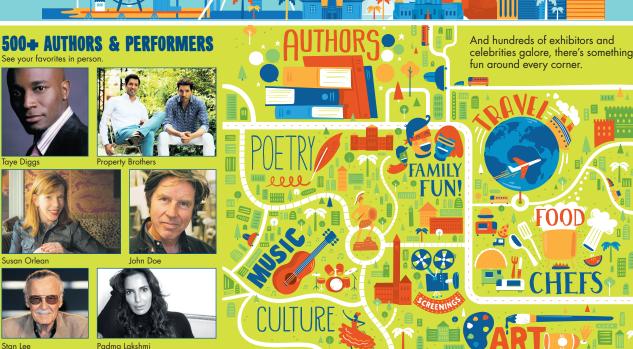
Nicole Coppage isn't resting on her laurels after finding out about her first-choice match at University of Washington. "My

next step is to pack up and move to Atlanta for the Centers for Disease Control and Prevention for 6 weeks," Coppage said, barely able to contain her excitement. "I will be working on a research project dealing with low income population's access to healthy food and its impact on obesity. Then I come back to California, graduate, and move to Seattle."

Deep Chandegara is relocating too, but much closer to home. His match, in anesthesiology at LAC+USC, makes him very happy. "I could not imagine myself at a better place. Now, I have to find an apartment in downtown Los Angeles!" he said with a big grin. "But first, I'm going to celebrate. I am one of the class social chairs and we are going to have a celebration tonight."

Los Angeles Times

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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:



Heather Bresch

Mylan CEO to start USC John Biles Speaker Series on Leadership

HEATHER BRESCH WILL BE THE INAUGURAL speaker in the USC John Biles Speaker Series on Leadership at the USC School of Pharmacy at 5 p.m. March 31. Bresch is the CEO of Mylan, one of the world's leading pharmaceutical companies with a global workforce of more than 30,000 and a commercial presence in approximately 165 countries and territories. She is the first female CEO of a Fortune 500 pharmaceutical company and was named one of *Fortune* magazine's "50 Most Powerful Women in Business." The USC John Biles Speaker Series on Leadership is part of the Margaret and John Biles Leadership Center, created through a gift from Ninetta and Gavin Herbert. To attend, RSVP at usc.edu/esvp, event code "leadership." For more information, contact Cheryl Stanovich at stanovic@usc.edu or (323) 442-1738. — Michele Keller

Keck Medical Center of USC to celebrate National Doctors Day

THE PHYSICIANS OF KECK MEDICAL CENTER OF USC will take center stage on March 30. The National Doctors' Day Celebration Breakfast will be held at Keck Medical Center of USC on Wednesday, March 30 from 7 a.m. to 9:30 a.m. All Keck Medicine of USC physicians are invited. National Doctors' Day is an opportunity for all staff members across Keck Medicine to shows their appreciation for its talented physicians and reflect on their contributions to patient care, said Stephanie L. Hall, MD, MHA, chief medical officer of Keck Medical Center of USC and associate dean of clinical affairs, Keck School of Medicine of USC. National Doctors' Day is celebrated annually at health care centers across the country to recognize physicians. Celebrations will take place in two locations: Keck Hospital - 1st floor Hoffman Café, and Norris Cancer Hospital - 1st Floor Matson Conference Room, Room 1315. — Douglas Morino





FIGHTING KIDNEY DISEASE: University Kidney Research Organization honored USC academic and scientific leaders at its sixth gala dinner March 18 at The Beverly Hilton. This group of vocal champions of kidney disease research included Provost and Senior Vice President for Academic Affairs Michael Quick, PhD, pictured above with Keck School of Medicine of USC Dean Carmen A. Puliafito, MD, MBA; scientist Andrew McMahon, PhD; surgeon Robert Selby, MD; and physician Yasir Qazi, MD. For more photos from the event, go to hscnews.usc.edu.

Students to run summer public health workshop in Uganda

By Larissa Puro

Students will be putting their public health knowledge to the test nearly 10,000 miles from Los Angeles this summer — in the rural Ugandan district of Mpigi.

Students from all degree programs are eligible to participate in the annual public health immersion program, which began last year under the leadership of Heather Wipfli, PhD, assistant professor of preventive medicine at the Keck School of Medicine of USC and associate director of the USC Institute for Global Health.

The USC team again will work with local university students and other partners to lead a public health workshop during a weeklong youth soccer camp June 6-17. The camp is run by Wipfli and her 13-year-old son, Ray, through his nonprofit, Ray United FC.

Last year more than 1,000 Ugandan youth attended the program. Integrated with soccer trainings and scrimmages, public health lessons led by the university students ranged from dental hygiene to sanitation practices, and stressed the importance of physical activity as a con-



A team of students from USC will work with local university students and other partners to lead a public health workshop during a weeklong youth soccer camp June 6-17 in Uganda.

tions working to learn more about health care delivery in the country.

Students must submit an interest form to participate in the program. Course credit may be available to

USC Health Sciences Public Relations and Marketing 2011 N Soto Street - SST-2830 Los Angeles, CA 90032 undergraduates and students looking to meet practicum requirements may be able to extend their trips.

To learn more and submit an interest form, visit http://bit.ly/1SdpFj2.

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More than 2,000 Valentine grams were purchased during a recent community fundraiser.

Valentine's Day fundraiser generates money for local community centers

KECK MEDICINE OF USC SHOWED ITS HEART on Valentine's Day. Physicians, nurses and staff members across the health system purchased more than 2,000 Valentine's Day grams, showing appreciation for their colleagues while generating money to support the community surrounding the Health Sciences Campus and USC Verdugo Hills Hospital. The money raised from the Valentine's Day gram fundraiser will support the YMCA near USC-VHH and the Hazard Park Community Center. Each Valentine's Day gram was filled with chocolates and candy, along with a handwritten note. The Valentine's Day gram event was organized by the Keck Hospital Spirit Team, Patient Experience team and USC-VHH volunteers. — Douglas Morino

tributor to preventive health and wellness.

The students developed pre- and post-assessments which they administered to the youth to evaluate their baseline knowledge and learning from the experience. That data informed recommendations regarding maternal health, HIV/ AIDS, nutrition, sanitation, hygiene, diarrheal disease and health systems management — and helped shape activities to come in this year's camp.

The students also brought donated camp materials including bags, shirts, hygiene supplies and public health workbooks they developed themselves. After the camp, they remained in Uganda for an additional week to visit health centers and organiza-

HSC News

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