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

**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!”

**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 cesas its activity by the time the kidney has grown its first branches.

**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
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, Indreter 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 simula- tor, which is patient-specific, that allows the doctor to operate on the 3-D model before oper- ating on the real organ.” The conference was chaired by Gill, who was accompanied by Monish Aron, MD, profes- sor of clinical urology and co-director of robotic surgery and advanced laparoscopy at the USC Institute of Urology. A total of 20 national and interna- tional faculty members spoke at the seminar.

“Cases of urological cancers, especially prostate cancer, are on the rise in India,” said Gustav Dauer, MD, medical director, Sir HN. Reliance Foundation Hospital. “Robotic surgery has revolutionized mini- mal 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 prac- tices to Mumbai for citizens of India.”

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

— tight at the beginning of the two molecules

In the developing human, whether kidney or nephron, the 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 longer in the develop- ing 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 normal development and a type of pediatric kidney cancer, called Wilms’ tumor, which is associ- ated with SIX1 mutations.

The results of this study have highlighted the impor- tance of examining human development, and continuing to confirm what knowledge we have gained from models such as the mouse, “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 rank- ings from U.S. News & World Report show USC’s health science graduate schools remain among the best in the country, 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 Bioki- nesiology and Physical Therapy and the USC School of Pharmacy all saw improvement in research, reflecting the school’s continued prom- ising growth and 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, M.D., MBA, dean of the Keck School of Medicine. “To- gether 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. 5 in the latest rankings of the nation’s occupa- tional therapy graduate educational programs. Since the rankings began in 1998, USC Chan has continuously been ranked in the top five.

Meanwhile, the USC Division of Biokinesiology and Physical Therapy re- mained in 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.

“On our list, we are very pleased to be ranked No. 1 again,” said James Gordon, Ed.D., associate dean of the division. “Although the importance of rankings may sometimes be over- stated, 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 Western Califor- nia with its No. 9 ranking, an increase from its previ- ous 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 lead- ing pharmacy education in California and across the nation,” said Interim Dean Glen L. Stimmel, PharmD. “We are shaping the future of pharmacy practice, integrating research and educational excellence, and our students are recognized by our peer schools of pharmacy across the country.”

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

Calendar of Events

Friday, March 25


Saturday-Sunday, April 9-10

Mini-symposium introduces next-generation researchers

By Cristy Lytal

The 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 those 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 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 Ras 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 Morrus, 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 specific properties, such as enhanced injury resistance or regenerative capacity.

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 Ras 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 Morrus, 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 specific properties, such as enhanced injury resistance or regenerative capacity.

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

The next step is to pack up and move to Atlanta for the Centers for Disease Control and Prevention.

Match Day: Students praised faculty, administrators for guidance, mentorship

Continued from page 1

broke into tears and I was so happy.”

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

“Since Day 1, (Assistant Dean for Student Diversity Atlehea 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, M.H.A.), who is an amazing mentor.

Nicole Copping 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,” Copping 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.”
The physicians at 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 the country to recognize physicians. Celebrations will take place in two locations: Keck Hospital — 1st floor Hoffman Café, and Norris Cancer Hospital — 1st Floor — Michele Keller

Heather Wipfli, PhD, associate professor of preventive medicine at the Keck School of Medicine 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.

The students also brought their public health knowledge to the test nearly 10,000 miles from Los Angeles this summer — in the rural Ugandan district of Mpuug. 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 non-profit, 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 contributor 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 organization 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 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.