

Keck School honors scholars—and donors who support them

By Imelda Valenzuela

Detailing a harrowing surfing accident that left him blind in one eye, fourth-year medical student Ryan O'Shea delivered a stirring speech at the Keck School's annual scholarship luncheon.

One hundred twenty guests including students, donors and administrators at the Keck School of Medicine of USC listened intently to O'Shea at the Nov. 11 event in the Harry and Celesta Pappas Quad. An avid surfer and custom surfboard designer, O'Shea recounted the accident a year ago when his surfboard slammed into his face fracturing it in three places, destroying his inferior orbital fissure, leaving him with a severe concussion, and severing his optic nerve causing permanent blindness to his right eye.

He was brought into surgery that night at Los Angeles County+USC Medical Center, the same hospital he was doing rotations in just 12 hours earlier. When he returned to school three days later, O'Shea wondered if he could still be a doctor or surgeon and eventually got his question answered. Attending physicians went out of their way to put him in touch with working surgeons who experienced a similar injury and



Fourth-year medical student Ryan O'Shea expresses his appreciation for the scholarship awards that made his pursuit of a medical education possible.

have vision in only one eye. The Keck School allowed him extra time in the anatomy and surgical skills labs, which helped him get back to a level that's "almost perfect," according to O'Shea. "My depth perception is just as good as any other student's here," said O'Shea. "Because of USC, I have the ability to perform surgery, I have the ability to pursue a surgical career. I will be a capable doctor, I will be able to perform procedures safely."

O'Shea, who is leveraging student loans and his own savings from tutoring and other jobs during his undergraduate years to pay for his medical education, expressed gratitude to the donors who sponsor the student scholarships. "It means a lot that the donors are willing to give these scholarships because it takes the worry off of us to let us focus on what we want to pursue," he said. "We can focus on just becoming good doctors and let that be our priority going through medical school, not questioning yourself daily as to how are you going to pay these loans off?"

Dean Carmen A. Puliafito underscored the need for student scholarships at the Keck School, where the average debt load

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'Because of USC, I have the ability to perform surgery. I have the ability to pursue a surgical career.'

—Fourth-year medical student Ryan O'Shea, whose 2009 surfing accident left him blind in one eye

Hispanics genetically predisposed to developing fatty liver disease

By Meghan Lewitt

Two studies from the Childhood Obesity Research Center at the Keck School of Medicine have found evidence that Hispanic children and adolescents are genetically predisposed to developing fatty liver disease—a condi-

tion that can lead to cirrhosis, cardiovascular disease and diabetes.

The studies, recently published in the journals *Diabetes* and the *American Journal of Clinical Nutrition*, found that Hispanic children who carry the PNPLA3 gene variant

(GG) have increased liver fat. Children who carry the variant are also more susceptible to developing liver fat when consuming a high sugar diet.

Previous research has shown that Hispanics are particularly susceptible to the accumulation of fat in the liver, and

reports suggest that nearly four of 10 obese Hispanic children and adolescents have nonalcoholic fatty liver disease (NAFLD).

"Collectively these findings demonstrate that Hispanics are genetically susceptible to the negative health effects of high sugar consumption, and that this effect is manifested early in life," said Principal Investigator Michael I. Goran, professor of preventive medicine, physiology and biophysics and pediatrics, and director of the USC Childhood Obesity Research Center at the Keck School of Medicine. "This is a major public health concern, especially in the face of massive marketing of sugary beverages to children."

The researchers conducted cross-sectional studies of more than 300 Hispanic youth (ages 8-18) in the Los Angeles area, using metabolic, diet and genetic measures. They found that GG carriers have almost double the amount of liver fat content as non-carriers. The effects are strongest in Hispanics because the frequency of the variant is much higher (49 percent) than in whites (23 percent) or African Americans (17 percent), said Jaimie Davis, assistant professor of preventive medicine at the Keck School of Medicine, and

a lead author on the studies.

The findings suggest that obese Hispanic children with the variant have an increased capacity for fat storage and decreased hepatic lipid mobilization (breakdown of stored fats), among those whose diets are high in sugar, she said.

Sugar intake is high among youth in Los Angeles and accounts for nearly half of all daily carbohydrate intake and 25 percent of energy intake. However, because the link between high sugar diets and liver fat accumulation was only evident among children who had the GG variant, the findings could have important implications for treating NAFLD, Davis said.

"Specific dietary interventions based on the genetic predisposition may lead to more effective therapeutic outcomes in children with fatty liver disease," she said. "I think the studies really highlight the need to test such diet and genotyping interventions."

"The work done by Dr. Goran and his team is at the interface of personalized and community health," said D. Brent Polk, professor and chair of the Department of Pediatrics and director of the Saban Research Institute at the Keck

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Tania Chatila

CHINESE DIGNITARY TOURS USC UNIVERSITY HOSPITAL—Huang Yong Yue (center), chief executive officer of the Shenzhen Shekou People's Hospital in China, toured USC University Hospital and USC Norris Cancer Hospital on Nov. 15 and learned about the operational practices at the two USC-owned hospitals. Yue also met with Chief Operating Officer Scott Evans, who shared administrative insights with Yue on how to run a hospital. "The tour and all the information I received were very helpful," said Yue, speaking through an interpreter. "I think these hospitals are really wonderful." A group of researchers from the Shenzhen Shekou People's Hospital in China also attended the tour with Yue. The visiting researchers have been working with Chi-Shing Zee in the Department of Radiology through a special exchange program. Above, Patient Experience Director Yolee Casagrande (far right) explains to Huang Yong Yue how USC University Hospital uses a pager system to inform relatives of surgery patients about the status of their loved ones.

Clinical leaders mull promise of electronic medical records

By Sara Reeve

More than 60 clinical chairs and department administrators from the Keck School of Medicine gathered in Aresty Auditorium on Oct. 26 to learn more about the new system for electronic medical records (EMRs) coming soon to USC.

The discussion, moderated by Mark Amey, CIO for the Health Sciences Campus, outlined the timeframe for implementation of the EMR system, provided by the health care information technology company Cerner. The presentation concluded with a demonstration of the EMR, as well as questions from the audience.

"There's been anxiety about the electronic medical record amongst physicians at least for the last 10 years, that I'm aware of," said Carmen A. Puliafito, dean of the Keck School of Medicine. "I thought it would be good to talk today about where we are, how we got here, where we're going and what the process is going to be."

Funding opportunities through the

American Recovery and Reinvestment Act are spurring this adoption of the EMR. According to Amey, USC stands to gain \$22 to \$30 million for the entire academic medical center if it can meet key standards of implementation by 2012. For implementation after 2012, funding levels will be reduced, with no money received for implementation after 2014.

"There is significant financial incentive for us to hit the mark in 2011 and 2012," said Amey. "I'm here to tell you unfortunately, 2011 is not an option for us—there is just too much work that we have to do. 2012 is going to be a stretch goal for us, but we have a plan right now that we think we can execute in order to get that done."

Peter Quiros, assistant professor of ophthalmology in the Keck School, discussed the work that the university's physician technology advisory group (PTAG) put into reviewing different EMR systems before finally picking Cerner. This work included visiting Cerner headquarters in Kansas

City, as well as an independent multi-site ambulatory care center that used the Cerner system.

"What this implementation is going to mean to us is probably the single largest change in our practice in the history of this campus," said Quiros. "We really do need to have an united and engaged leadership, and remember that it is not the technology that is going to change us alone—we have to change our work flows. It's going to be the melding of the two that is going to bring us a very efficient use of the medical record here."

Physicians and hospital staff peppered USC and Cerner speakers with questions about the new system's usability, timeframe, technical capabilities and reliability.

Robert Bart, clinical associate professor of pediatrics at the Keck School, uses a Cerner EMR system in his practice at Children's Hospital Los Angeles, and with assistance from a Cerner representative, provided a live demonstration of the program.

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FIGHTING CANCER WITH CUPCAKES

Employees of the USC Health Sciences Campus brave the rain for a sweet treat at the Sprinklesmobile.

The boutique cupcake bakery, Sprinkles, made an appearance on campus with its Sprinklesmobile on Oct. 20 in honor of Breast Cancer Awareness Month. The truck sold 850 cupcakes, with a portion of the proceeds from sales benefiting cancer research at the USC Norris Comprehensive Cancer Center and Hospital.



Carol Matthieu

ETCETERA

USC pediatrics expert **Roberta Williams** was honored in October by the American Academy of Pediatrics Section on Cardiology and Cardiac Surgery as the recipient of the Founders Award for 2010.

The Founders Award recognizes outstanding contributions in the field of pediatric cardiology and cardiac surgery. The award was established in 1988 and is presented annually by the section. The award was presented at the 2010 National Conference and Exhibition held in San Francisco.

From 2000 to 2010, Williams served as vice president of Pediatrics and Academic Affairs at Children's Hospital Los Angeles, and professor and chair of the Department of Pediatrics at the Keck School of Medicine. She remains on staff at Children's Hospital and USC.

Williams has been a pioneer in the field of echocardiography since the 1970s. She developed the initial clinical correlations with echo findings that formed the basis of non-invasive diagnosis of a wide variety of cardiac anomalies in childhood, adult and fetal life.

In addition, Williams established the accuracy of diagnosis that allowed echo to supplant cardiac catheterization prior to surgical correction for many types of defects. As

the first medical director of a pediatric cardiac surgical intensive care unit at Boston Children's Hospital in the '70s and '80s, she applied echo to the developing field of infant cardiac surgery.

These observations changed management of congenital heart disease around the world. More recently, her research interests have focused on health care access and workforce issues of lifelong care of all chronic diseases originating in childhood.

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The American Academy of Pediatrics (AAP) Section on Orthopaedics recently honored USC orthopedic surgeon **Vernon T. Tolo**, with its 2010 Distinguished Service Award in recognition of his contributions to the organization's mission of excellence in patient care, research and teaching.

Tolo, the John C. Wilson, Jr., Professor of Orthopaedics at the Keck School of Medicine and chief emeritus of the Children's Orthopaedic Center at Children's Hospital Los Angeles, received the award at the AAP 2010 National Conference in San Francisco held in October.

Tolo specializes in treating patients with spinal deformity, cerebral palsy, skeletal dysplasia and hip disorders.

The Weekly

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DID WE SAY THAT?

A story in the Nov. 12 issue of *The Weekly*—"Peter Jones to step down from Cancer Center directorship, focus on research"—included an incorrect e-mail address for Warren Ross, Korn/Ferry International search consultant. Candidates for consideration as director of the USC Norris Comprehensive Cancer Center should be directed to Ross at warren.ross@kornferry.com.

Keck School researchers find new genetic links to ovarian cancer risk

By Meghan Lewit
Researchers at the Keck School of Medicine have discovered new genetic variants in five regions of the genome that affect the risk of ovarian cancer in the general population. The USC researchers are among an international consortium of scientists from the United States, Europe, Canada and Australia that carried out genome-wide association studies comparing 10,283 women with ovarian cancer to 13,185 women

without the disease. The consortium’s results appear in two separate studies published Sept. 19 in the journal *Nature Genetics*. The studies built upon previous findings that a stretch of DNA on chromosome 9 containing single DNA letter variations is associated with ovarian cancer risk. The researchers now have found additional stretches of DNA on chromosomes 2, 3, 8, 17 and 19 by grouping patients according to the type of ovarian cancer they had

developed. Four out of five of the new DNA variations were more common in women who had developed the most common and aggressive form of the disease, known as serous ovarian cancer. Simon Gayther, professor of preventive medicine at the Keck School of Medicine, is senior author on one of the studies, which found a region of DNA on chromosome 19 that affects ovarian cancer risk. A third study in the same journal issue found that variation in this same region of chromosome 19 also increases the risk of breast cancer in women who already carry the BRCA1 gene. “Our study shows that the same genetic region plays a role in both breast and ovarian cancer, suggesting that the same faulty pathway can cause both diseases, just like

BRCA1 and BRCA2 do,” said Gayther, who conducted the research at University College London. “This is important because it suggests that women who carry certain versions of this stretch of DNA could benefit from closer monitoring for both breast and ovarian cancers.” Susan Ramus, David Van Den Berg, Daniel Stram, Celeste Leigh Pearce and Anna Wu, all of the Department of Preventive Medicine at the Keck School of Medicine, were among the paper’s co-authors. “Since the critical validation of these findings was performed by a large consortium of investigators from around the world, we see this research as a triumph of science without borders for the benefit of women everywhere,” said Andrew Berchuck, professor of

gynecologic oncology at Duke University Medical Center and head of the steering committee of the international Ovarian Cancer Association Consortium. Ovarian cancer is the fifth-most common cancer among women in developed countries, often detected in later stages when the chances of a cure are small. As a result, the disease claims more lives in the United States than all other gynecological cancers combined. Every year, about 13,000 women in the United States and 130,000 worldwide die from the disease. “These latest findings raise the possibility that we can identify the women in the general population who are at the greatest risk of developing ovarian cancer because they carry these newly discovered DNA variants,” Gayther said.

Robert Rude, longtime Keck School researcher and physician, 68

Robert Rude, a longtime member of the Keck School of Medicine faculty and a leading researcher in the field of bone and mineral metabolism, died on Nov. 2 following a prolonged illness. He was 68. A native of North Dakota who received his medical degree from Northwestern University, Rude served the United States in Vietnam before joining USC for residency training in internal medicine in 1973. He completed his fellowship training in endocrinology and metabolism in 1978 and joined the USC faculty in the division of endocrinology, Department of Medicine, where he remained throughout his academic career. Rude, a pioneer in translational research in magnesium balance and its role in osteoporosis, used animal models to identify a link between magnesium deficiency and osteoporosis, a finding that he translated to humans in a series of clinical studies that helped to define dietary magnesium requirements. He also did field-leading work on the relationship between magnesium deficiency and insulin resistance, a major risk factor for diabetes. For his research, Rude received the Alexander and Mildred Seelig Magnesium Award from the American College of Nutrition in 2008. Rude was also known by colleagues as an outstanding teacher and clinician who contributed to the education and training of countless students, residents and fellows who studied endocrinology and metabolism at USC and the LAC+USC Medical Center.



From left, student Ryan O’Shea, donors from the USC University Hospital Guild Kay Maselter and Vivian Gumbiner, student Bernard Brass, donor Candy Duncan, student Douglas Matsunaga, and donors Honorable John Reid and Valerie Weiss.

LIVER: Study on early intervention needed

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School of Medicine and Children’s Hospital Los Angeles. “While we know that this genetic variant is overrepresented in Hispanic people, the findings help us identify individuals with increased susceptibility to worse disease,” he said. “Now we can ask does early intervention in this group prevent their progression to the complications of fatty liver disease?” The studies were supported by the National Cancer Institute, University of Southern California Center for Transdisciplinary Research on Energetics and Cancer, the National Institute of Child Health and Human Development, the Minority Research Center of Excellence, the National Heart, Lung, and Blood Institute, the Dr. Robert C. and Veronica Atkins Foundation, the National Institute of Diabetes and Digestive and Kidney Diseases, and the MGM Mirage Fund at the University of Southern California.

DONORS: Grateful students sound off on importance of scholarships

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for graduating students is \$170,000. “When we look at our fundraising priorities at the medical school, one of the very highest is student scholarships and for our alumni and friends we ask them, ‘If you want to help the medical

school, help us help our medical students’,” he said. Joanne Reynolds, representative of the Donald F. Shaw Endowed Scholarship that is named after her grandfather, said her family has “a long-standing tradition with USC,” given that she, her parents and

her sister attended USC. “My granddad was a self-made man so helping struggling medical students seemed like a very appropriate way to remember him,” said Reynolds. “This was a place we could contribute to the community in a really meaningful way.”

The Weekly NEWSMAKERS

A Nov. 15 *Discover Magazine* blog quoted professor of medicine and director of the USC Center for Applied Molecular Medicine and the USC Westside Prostate Cancer Center **David Agus** in a post about *GQ Magazine’s* first edition of “The Rock Stars of Science,” a feature designed to get young people interested in science. Agus was one of the researchers included in the feature. A Nov. 11 *La Cañada Valley Sun* article quoted chief executive officer of USC University Hospital and USC Norris Cancer Hospital **Mitch Creem**, Hastings Professor and Norris Chair of Medicine **Edward Crandall**, associate professor of medicine

and chief, division of geriatric, hospital and general internal medicine, **David Goldstein** and chief executive officer of The Doctors of USC **Minor Anderson**, and highlighted the opening of the Doctors of USC La Cañada. The clinic is a first step in creating a regional network of satellite offices in Los Angeles’ surrounding communities. A Nov. 11 Medscape Today quoted associate professor of research in the Department of Preventive Medicine **Donna Spruijt-Metz** and featured an innovative mobile technology program she is testing called KNOWME Networks that shows promise in combating childhood obesity.

A Nov. 10 *Science News* article highlighted a study by professor of preventive medicine and director of the USC Childhood Obesity Research Center **Michael Goran** and colleagues, which found that the sweeteners in Coca-Cola and Pepsi contain more fructose than consumers have been led to believe. A Nov. 6 *La Opinion* article featured research by professor of medicine and director of the USC Clinical Diabetes Program **Anne Peters** on diabetes and socio-environmental conditions in East Los Angeles. MedScape Today also featured Peters discussing diabetes treatment.



LET'S EAT

USC Hospitality celebrated on Nov. 12 the reopening of the Plaza Marketplace (above), which features updated interior spaces and new menu. Top, from left, Kris Klinger, director of Hospitality, and USC School of Pharmacy R. Pete Vanderveen do the honors at the ribbon cutting ceremony. Top right, Kamille Simmons serves coffee samples to guests at the ribbon cutting ceremony. Right, workers staff the registers inside the eatery and hustle food out to waiting guests.



Photos by Jon Nalick



USC Pharmacy student honored for community outreach

By Gabrielle Olya

Tina Patel, a Pharm.D./M.P.H. candidate at the USC School of Pharmacy, has been named a recipient of the Pharmacy Times/Wal-Mart RESPy Award, given to students who demonstrate “Respect, Excellence and Service in Pharmacy.”

“As pharmacy students, it’s important to get involved in the community because we have so much valuable knowledge, and by sharing it, we are bettering the community and helping in our professional training as well,” Patel said.

Patel knew she wanted to take part in community outreach as soon as she started at the USC School of Pharmacy, and when she found there were no leadership roles available for first-year students, she decided to start something of her own.

“I had always been involved in community service, and I had this idea to start a free clinic,” Patel said. “This was something a first-year had never done, but with the help of professor Jeffery Goad and the support of some of my friends and fellow students, we were able to make it happen.”

After a year of planning, the free clinic was opened at the Botica del Sol Pharmacy in Boyle Heights, which received the 2010 National Health Conference Good Neighbor Pharmacy of the Year award for its innovative practices. The weekly clinic provides screenings for hypertension, cholesterol and blood pressure to local residents.

“The most rewarding experience for me was when we got our first repeat patient at the clinic,” Patel said. “It was a month or two after we started the clinic, and a man came in who we had previously referred to a physician for his high blood pressure. To me, this was a sign of our success: showing he trusted us and our guidance enough to come back.”

In addition to her involvement in the clinic, Patel is co-director of local associations for the National Community Pharmacists Association, a group devoted to discussing the statewide and national policies that impact the practice of pharmacy. She is also doing research with Goad that aims to demonstrate the ability of pharmacists to administer immunizations, in a bid to change California’s policy from a physician-signed protocol to a state-signed protocol.

Each year only eight students receive the national RESPy award, selected by a panel of judges who evaluate the students’ commitment to community service.



Tina Patel

Calendar of Events

This Calendar of events is also online at www.usc.edu/hscalendar for the Health Sciences Campus community

Sunday, Nov. 21

8:30 a.m. USC Institute of Urology LA Prostate Cancer 5K. San Vicente Blvd. in Brentwood. Registration is \$35. Info: (323) 865-3700

Monday, Nov. 29

Noon. KSOM Research Seminar. “Integrative Genetic Approaches to Understanding Complex Diseases,” Hooman Al-layee, USC. NRT Aresty Aud. Info: (323) 865-0801

Tuesday, Nov. 30

Noon. Cancer Center Grand Rounds. Susan Ramus, USC. NRT Aresty Aud. Info: (323) 865-0801

Wednesday, Dec. 1

Noon. KSOM Research Seminar. “Understanding

Insulin Resistance and its Role in Diabetic heart Disease Using a New Polygenic Obese Mouse,” Jason Kim, Univ. of Massachusetts. NRT Aresty Aud. Info: (323) 865-0801

Tuesday, Dec. 7

1 p.m. ZNI Seminar. “Sculpting Cell Membranes: Understanding Pathways of Endocytosis and Exocytosis,” Harvey McMahon, Medical Research Council Laboratory of Molecular Biology, Cambridge, England. ZNI 112. Info: (323) 442-2144

Tuesday, Dec. 14

10:30 a.m. USC Hospital Guild Holiday Speaker Series. “Seeing Better,” Mark Humayun, USC. DEI 3200. Speaker series is complimentary, optional lunch \$30. Info: (323) 254-0600

ONLINE EXTRAS

Read more HSC news online:

- **USC Holds Health Empowerment Camp for Teens**

<http://tinyurl.com/29q9sy2>

- **Obesity Focus Group Reveals Weighty Findings**

<http://tinyurl.com/23gtozh>

- **USC Researchers Investigate HIV Shedding in Saliva**

<http://tinyurl.com/25y6uu3>

- **Strategic Planning Committee Announced**

<http://tinyurl.com/29k8xnb>

- **Keck School Dean Touts Medical Careers to High School Students**

<http://tinyurl.com/2b3cyyf>

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In case of an emergency...

Call the Emergency Information Phone: 213-740-9233 The emergency telephone system can handle 1,400 simultaneous calls. It also has a backup system on the East Coast.

Visit the USC Web: <http://emergency.usc.edu> This page will be activated in case of an emergency. Backup Web servers on the East Coast will function if the USC servers are incapacitated.