

## Physician-scientist Shelly Lu receives prized NIH R01 grant—her fifth

By Jon Nalick

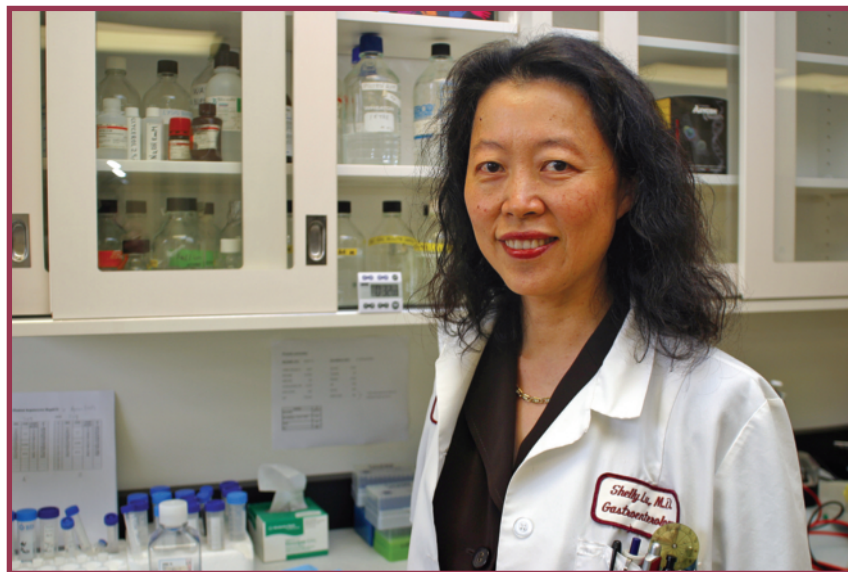
For a physician who originally gave little thought to performing research, Shelly Lu has proven to be remarkably good at it.

Good enough that Lu, professor of medicine, division of gastrointestinal and liver diseases at the Keck School of Medicine, recently received—for her work related to colon cancer—a new \$1.99 million National Institutes of Health (NIH) R01 grant. She also successfully renewed another \$2 million NIH R01 grant at the same time.

Moreover, in a discipline where holding even one prized R01 grant is considered laudable, and holding two remarkable, Lu now serves as principal investigator on a total of five such grants, totaling \$9.2 million. She has now received 16 years of uninterrupted NIH funding totaling \$17.7 million.

Edward Crandall, chair of the Department of Medicine, called Lu's work impressive in both its scope and importance.

"In this time of such intense competition for NIH funding support, Dr.



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Shelly Lu's research has generated multiple NIH grants totaling \$17.7 million over the last 16 years.

Lu's remarkable achievements, which reflect on the outstanding quality of her research program, are especially noteworthy," he said.

For Lu, a devotion to research developed over time and in large part because of the influence of her longtime

mentor Neil Kaplowitz, director of the USC Center for Liver Diseases, chief of the division of gastrointestinal and liver diseases and the USC Associates/Thomas H. Brem Chair of Medicine at the Keck School.

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## Study elucidates role of gene in regulating glucose, may shed light on diabetes

To understand how genes work, a collaborative study that includes USC researchers has identified a gene that regulates glucose levels.

The results, to be published in the July issue of the *Journal of Clinical Investigation* and currently available online, may provide further understanding of the underlying causes of diabetes.

"Elevations of blood glucose are diagnostic of diabetes. This finding demonstrates there are gene variants that are

important for day-to-day regulation of glucose, but they do not appear to play a significant role in disease risk," said Richard M. Watanabe, associate professor of preventive medicine and physiology & biophysics at the Keck School of Medicine of USC and co-senior author of the paper.

The study determined that this variant is not associated with an increased risk for type 2 diabetes.

"The identification of these variants

increases our basic biologic knowledge about regulation of glucose and may also be useful in future genetic studies to help discriminate between genetic variants that do or do not contribute to disease susceptibility," Watanabe said.

The study examined genetic information from more than 24,000 people. Researchers scanned the genomes of more than 5,000 participants by combining the genome-wide association

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## US News & World Report ranks CHLA among nation's best hospitals

Childrens Hospital Los Angeles has been ranked ninth among 143 children's hospitals and medical centers in the nation, according to *U.S. News & World Report* magazine's "America's Best Children's Hospitals" in the June 9 issue.

Physicians at Childrens Hospital Los Angeles are on the faculty at the Keck School of Medicine.

Robert Adler, vice chair of the Department of Pediatrics and director of Medical Education at Childrens Hospital Los Angeles and professor of pediatrics and vice chair of the Department of Pediatrics at the Keck School, welcomed the news, saying, "We are very pleased to be ranked as the top pediatric hospital in California. Our priority remains to provide the best care to the children entrusted to us while training the future leaders of pediatric care, whose research and academic contributions will lead to new and better outcomes for all children."

Keck School Dean Carmen A. Puliafito said, "We congratulate our colleagues for this great accomplishment. We are proud of the affiliation between our USC physicians, led by Roberta Williams, chair of the Department of Pediatrics for the Keck School, and all of the students, staff and friends of the nationally-recognized Childrens Hospital of Los Angeles."

Childrens Hospital Los Angeles has been ranked among the nation's best hospitals since the inception of the magazine's rankings in 1990.

In addition to the top-10 ranking for Childrens Hospital Los Angeles, all six of the specialty areas ranked this year for the first time by *U.S. News & World Report* were rated among the nation's best: Cancer (9), Heart & Heart Surgery (11), Respiratory Disorders (11), Neurology & Neurosurgery (13), Neonatal Care (21) and Digestive Disorders (24).

*U.S. News & World Report* invited 143 hospitals to complete its survey

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The Keck School of Medicine hosted "Healthcare 101" on June 3 to foster greater understanding of the new vision for an academic medical center at USC. From left: Mark Finucane, co-director of the Ernst and Young Academic Medical Center Group; USC University Counsel Stacy Bratcher; USC Vice Provost Mitchell Creem; Coreen Rodgers, Keck School chief operations officer; Minor Anderson, USC Care chief executive officer; and Keck School Dean Carmen Puliafito. See story, page 3.



## JNCI: Gene variant may limit insulin secretion, cause glucose levels to rise

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(GWA) findings from the Finland-United States Investigation of Non-insulin-dependent Diabetes Mellitus (FUSION) study and the SardinIA study of aging.

The results determined that a gene on chromosome 2 that encodes for the enzyme glucose-6-phosphatase catalytic 2 (G6PC2) is associated with fasting glucose levels.

"G6PC2 is primarily expressed in the beta-cells of the pancreas and is responsible for converting glucose-6-phosphate back to glucose," said Watanabe. "Genetic variation of G6PC2 may be responsible for reducing insulin secretion and causing the glucose concentration to increase."

Glucose concentrations increased with each additional copy of the higher frequency variant of the gene. Watanabe

added that chronically higher levels of glucose may be a precursor for type 2 diabetes.

The critical role of beta-cell function in the development of type 2 diabetes has also been demonstrated through studies by Richard N. Bergman, professor of physiology and biophysics, and Thomas A. Buchanan, professor of endocrinology at the Keck School.

To validate the findings, the results were compared to a second set of FUSION participants in addition to individuals from six other studies of Northern European descent.

According to Buchanan, a co-author of the paper, the finding points to the importance of studying not just diseases like diabetes, but also the regulation of phenotypes like blood glucose.

"Genetics is identifying a whole new set of genes, proteins and pathways that are related to diabetes and blood sugar control. Our next challenge is to figure out how these genes work," he said.

Buchanan, Watanabe and Bergman are co-investigators on the FUSION study and are members of the USC Center for Diabetes and Metabolic Disease.



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The Keck School of Medicine honored Francis S. Markland, Jr. on May 27 for his contributions as associate dean for scientific affairs at a reception at the Edmondson Faculty Center. Markland, pictured above, left, with his wife Wendy Jacquemin and Stanley Azen, professor in the Department of Preventive Medicine at the Keck School, stepped down from the post in April to focus on his research.

## Researcher Howard Hodis elected to AAP

Howard Hodis, Harry J. Bauer and Dorothy Bauer Rawlins Professor at the Keck School of Medicine, has been named to the Association of American Physicians (AAP).

Membership is a prestigious honor extended to 55 individuals each year who have demonstrated excellence in the pursuit of medical knowledge through experimentation and discovery of basic and clinical science and their application to clinical medicine.

Members have included Nobel laureates and members of the National Academy of Science and the Institute of Medicine. Edward Crandall, chair of the Department of Medicine, praised Hodis' research—on risk factors and

molecular mechanisms associated with atherosclerosis and the causes of heart disease and stroke—as outstanding and its acknowledgement by the AAP, "especially well deserved."

"Induction as a member of the AAP represents special recognition by Howard's own peers of his leadership in medical research. We all can take great pride in Howard having received this honor," Crandall said.

Hodis said he was pleased to accept the honor "that represents the respect and recognition by our peers of everyone who has dedicated years of commitment to the USC Atherosclerosis Research Unit, one of the most successful cardiovascular research programs."

## LU: 'Never a boring moment' in a research career aimed at thwarting cancer

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Lu said that as second-year resident, she received from Kaplowitz an invitation to work in his lab on antioxidant transport research. Later, with his encouragement, Lu chose to apply for a gastrointestinal fellowship and continue on his research team.

"A lot of things in life you don't plan," Lu said. "Originally, I was just going to be a doctor—and not even necessarily a gastroenterologist. But having met him at that time was very fortuitous: that's how I got into basic research."

Lu, who later worked at Cedars-Sinai before joining USC in 1990, is now associate director of the NIH-funded USC Research Center for Liver Diseases and associate editor of the journal *Hepatology*.

While at USC, her research has focused on methylation in liver disease and the role of the enzyme methionine adenosyltransferase (MAT), and its different forms, in healthy liver function and disease. MAT sets in motion the synthesis of S-adenosylmethionine, a substance commonly known as SAME (pronounced

"sam-ME"). The compound is manufactured in all human cells and regulates critical cellular processes such as gene expression, cell growth and death.

Lu's newest RO1 grant focuses on how SAME controls these critical cellular processes, specifically in colon cancer cells.

SAME is also crucial to the liver's function—if too much or too little is present, liver injury and cancer can result. Also of particular interest, said Lu, is that SAME—a widely available nutritional supplement in the United States—is well tolerated by the body at high doses and also selectively kills colon cancer cells but not normal colon epithelial cells. As a result, it could be useful in the prevention and treatment of colon cancer.

"This is exciting as there is currently no chemopreventive agent that is free of side effects," she said.

Additionally, SAME may prove effective as an adjunct to colon cancer treatments, making chemotherapeutic agents more effective at lower doses—another key focus of Lu's current research.

In recognition of her research success, Lu has been

inducted the American Society for Clinical Investigation (ASCI) in 2002 and the American Association of Physicians (AAP) in 2006.

The ASCI recognizes physician-scientists with outstanding achievements in biomedical research. The AAP honors members for their advancement of scientific and practical medicine; its inductees have included Nobel laureates and members of the National Academy of Sciences and the Institute of Medicine.

Additionally, in May, the American Gastroenterological Association named Lu one of its Outstanding Women in Science honorees for 2008.

Lu said that although she may not have intended to enter a career in research in the beginning, she has no regrets at having done so—because it has provided a continuing opportunity to translate advances in the lab into better care for patients with liver diseases and to help prevent and treat colon cancer.

"I have had a most challenging and rewarding career as a physician-scientist and I am immensely grateful for it," Lu said. "There is never a boring moment."

## National search launched for director of Zilkha Neurogenetic Institute

By Katie Neith

The Keck School of Medicine has launched a national search for a director of the Zilkha Neurogenetic Institute (ZNI).

The advisory search committee is being co-chaired by Keck School Dean Carmen A. Puliafito and M. Elizabeth Fini, senior associate dean for research advancement and professor of cell and neurobiology at the Keck School. The committee comprises 12 additional members drawn from the Keck School, and across the university and its partner organizations.

This includes the USC Leonard School of Gerontology, the USC Viterbi School of Engineering, the USC Office of Research Advancement, the USC College of Letters, Arts & Sciences, the USC College of Dentistry, Childrens Hospital Los Angeles and the California Institute of Technology.

"The Zilkha is part of a major commitment to biomedical research by the University, intended to raise the Keck School of Medicine into the upper tier of medical schools," said Fini. "The new director will be an outstanding scientist with a significant record of research and scholarship in basic and/or translational research, and the proven ability to integrate these domains. Importantly, this individual will also possess the leadership and management skills necessary to build Zilkha into a premier research institute."

The ZNI's new director will have the opportunity to develop a science strategy for the future, recruit faculty, contribute to Keck's research agenda and build interdisciplinary research efforts to support USC's broader neuroscience initiative. He or she is expected to work closely with the Dean's office, chairs of clinical and basic science departments at Keck, and the current ZNI faculty to develop a science strategy that addresses basic science research. "A well-defined strategy for ZNI and neuroscience on the Health Sciences Campus is vital to planning and achieving further faculty expansion and research funding growth at the institute," said Puliafito. "Creating a clear and useful strategy will be one of the director's first priorities."

To assist in the search, the School has engaged the services of Brill Neumann Associates, Inc., an executive search consulting firm focused on recruiting exceptional leaders to renowned universities and research institutes. Nicholas Brill, senior executive and co-founder of Brill Neumann Associates, will help guide the process.

The search committee invites applications and nominations for the director of the ZNI.

"Zilkha is an important hub for neuroscience at the Keck School, and across the University, which makes this an exciting opportunity for a high energy and visionary leader," Fini said.

All nominations and applications for this position should be sent directly to Brill at [uscZilkha@brillneumann.com](mailto:uscZilkha@brillneumann.com), copying Fini at [efini@usc.edu](mailto:efini@usc.edu).



Jon Nalick



**CLEARING THE AIR**—The Keck School of Medicine hosted informational sessions on air pollution and children's health for two U.S. Congresswomen and a National Institutes of Health Institute Director on May 27. Congresswoman Lucille Roybal-Allard (D-CA) (top left) and Congresswoman Hilda Solis (D-CA) (lower left) heard about the work of the Southern California Environmental Health Sciences Center from John Peters, Hastings Professor of Preventive Medicine (top right). The Center's scientific efforts are funded by the National Institute of Environmental Health Sciences (NIEHS) of the National Institutes of Health. Bottom right, NIEHS Acting Director Sam Wilson explained new initiatives the NIEHS is now pursuing, including research on better techniques to measure air pollution.

## In Case of An Emergency...

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.

Call the Emergency Information Phone:

213-740-9233

The emergency telephone system can handle 1,400 simultaneous calls. It also has a back up system on the East Coast.

## 'Healthcare 101' forum stresses importance of customer service in healthcare

By Jane Brust

Disney consultant Chris Caracci visited USC this week to encourage administrative leaders to make some magic in their delivery of customer service in the healthcare environment.

Caracci was among the speakers at the "Healthcare 101" seminar hosted by the Keck School of Medicine June 3. The program goal was to foster greater understanding of the new vision for an academic health center at USC among leaders who work at both the Health Sciences Campus and University Park Campus.

After 12 years as a respiratory therapist at large hospitals in Miami and Atlanta, Caracci's career path led to his

current role at the Disney Institute, working with the Professional Development Programs facilitation team.

Caracci offered a number of entertaining and compelling examples of how the Disney culture succeeds. For example, Caracci described how Disney employees—called "cast members"—assigned to park cars can make magic for tired guests by helping them find their cars at the end of the day. The trick is a low-tech method of tracking when cars arrive in the morning and which sections of the parking lot fill at various hours.

"Customers can't always comprehend the quality of a product or a medical

procedure, but they readily perceive the quality of the experience around the product or procedure," he said, emphasizing that the quality of the experience is all about customer service.

Another Disney example is the hotel housekeeper who poses a stuffed Mickey Mouse each day so that the children returning to the room are surprised to find Mickey watching television or eating pizza. "We encourage cast members to think outside their job descriptions to make magic," he said.

Caracci insisted that such magic can translate into good business.

"At Disney, guests who rate their experience as 'excellent' are three times more likely to return or recommend us

to their friends than those rating their experience as 'very good,'" he continued. "Remember that reputation drives repeat business."

Caracci said the Disney definition of quality service includes strategies to exceed their guests' expectations and tactics that surface when employees pay attention to every detail of the service delivery.

In the healthcare setting, "Great medical care isn't good enough," he said. "We like people to pay attention to us." Healthcare employees can pay attention by smiling, welcoming, noticing lost patients and visitors and assisting them with directions, among other activities, he noted.



# Calendar of Events

The HSC Calendar is online at [www.usc.edu/hscalendar](http://www.usc.edu/hscalendar)

## Saturday, June 7

9 A.M. "Prostate Cancer Screening and Epidemiology," David Penson, USC. KAM Mayer Aud. Info: (323) 442-2555

10 A.M. "Treatment of Localized Disease," Eila Skinner, USC. KAM Mayer Aud. Info: (323) 442-2555

11:15 A.M. "Novel Therapies for Advanced Disease," Tanya Dorff, USC. KAM Mayer Aud. Info: (323) 442-2555

## Monday, June 9

NOON. Fellows' Core Curriculum Conference. "NEPHSAP: Fluid, Electrolyte and Acid-base Disturbances," Alan Yu, USC. GNH Drs. Dining Rm. A & B. Info: (323) 226-7307

NOON. Transplant Conference. "Optimizing Outcomes in Kidney Transplant Recipients," Mike Bunnapradist, UCLA. GNH 6441. Info: (323) 226-7307

## Wednesday, June 11

NOON. Renal Grand Rounds. "Peritoneal Dialysis," Saeid M. Nosrati, USC. GNH 6441. Info: (323) 226-7307

## Friday, June 13

11 A.M. "The Role of Selectins in Cancer Metastases," Ajit Varki, UC San Diego. GNH 14-441. Info: (323) 865-3914

## Monday, June 16

NOON. Fellows' Core Curriculum Conference. "Psychosocial Issues of Organ Donation and Transplantation," Susana Dahdul, USC. GNH Drs. Dining Rm. A & B. Info: (323) 226-7307

## Tuesday, June 17

11:30 A.M. Psychiatry Grand Rounds. "PGY IV Resident Presentation Conference," Various speakers. ZNI 112. Info: (323) 226-5572

## Wednesday, June 18

NOON. Renal Grand Rounds. "Sympathetic Reactivity," Jeanie Park, USC. GNH 6441. Info: (323) 226-7307

## Monday, June 23

NOON. "NEPHSAP: Ca/Phos/Vit D/PTH in CKD," Miroslaw Smogorzewski, USC. GNH Drs. Dining Rm. A & B. Info: (323) 226-7307

NOON. "Transplant Conference," Various Transplant faculty. GNH 6441. Info: (323) 226-7307

**Notice: Deadline for calendar submission is 4 p.m. Monday** to be considered for that week's issue—although three weeks advance notice of events is recommended. Please note that timely submission does not guarantee an item will be printed. Send calendar items to HSC Weekly, KAM 400 or fax to (323) 442-2832, or e-mail to [ebalauw@usc.edu](mailto:ebalauw@usc.edu). Entries must include day, date, time, title of talk, first and last name of speaker, affiliation of speaker, location, and a phone number for information.



Dan Avila

**BUILDING RESEARCH BRICK BY BRICK**—Supporters of the USC/Norris Comprehensive Cancer Center, including Nicholas Rivera (above) gathered at an April 20 event to dedicate bricks, picnic tables and other items engraved with messages and names of loved ones. Funds received will support the purchase of research equipment for the Harlyne J. Norris Cancer Research Tower. Bricks and equipment are still available for naming. To make a donation, call the Development Office at (323) 865-0700 or visit <http://uscsom.convio.net/NorrisResearchTower>.

## CHLA: Among top 10 hospitals in nation

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to be considered for ranking; 113 chose to do so. The basis for the rankings is a blend of reputation, outcomes (where available) and care-related measures (e.g., patient volume, nursing and credentialing).

For "Reputation," the magazine's editors surveyed 1,100 pediatricians by mail and asked them to name up to five centers they believe to be most successful with difficult cases in their specialty. They were chosen at random from the American Board of Medical Specialties' database—200 for general pediatrics and 150 for each of the six specialties. Depending on the specialty, reputation counted for 50 to 60 percent of the final score.

For "Outcome," inpatient death rate was used in heart/heart surgery and in neurology/neurosurgery. That measure was not used for specialties that focus on outpatients—cancer, digestive disorders and respiratory disorders. The editors said that measures for neonatal are in progress. Where available, outcome counted for 10 percent of the score.

For "Care-Related Measures," the editors used nurse staffing, the availability of important technologies and patient volume. These measures counted for 40 percent of the hospital's score.

Three other children's hospitals in California were ranked in the new survey: Lucile Packard Children's Hospital at Stanford (12), Mattel Children's Hospital at UCLA (16) and University of California, San Francisco Children's Hospital (20).

The top five children's hospitals in the rankings were: Children's Hospital of Philadelphia (1), Children's Hospital Boston (2), Cincinnati Children's Hospital Medical Center (3), Johns Hopkins Children's Center (4) and Rainbow Babies and Children's Hospital, Cleveland (5).

Complete rankings of hospitals and specialties are available at [www.health.usnews.com/pediatrics](http://www.health.usnews.com/pediatrics).

## HSC NEWSMAKERS

Complete listing at: [www.usc.edu/uscnews/usc\\_in\\_the\\_news/](http://www.usc.edu/uscnews/usc_in_the_news/)

On June 2, the *Science Daily* online ran stories on presentations made by Keck School researchers at the American Society of Clinical Oncology meeting in Chicago. Medical News Today ran a similar story.

A May 30 *Los Angeles Times* article quoted internist **Michael Karp** about Barack Obama's health records, which were made public.

On May 28, "The Today Show" interviewed USC/Norris oncologist **Syma Iqbal** about pancreatic cancer. NBC affiliate KNTV-TV ran a similar story.

A May 28 *Pasadena Star-News* article quoted associate dean of student affairs **Donna Elliott** in a feature about the **Chinn family**, which has three generations of Keck School graduates.

A May 27 *Washington Times* article cited a USC study in a column on air pollution and its negative health effects.

A May 27 *Los Angeles Times* article quoted USC/Norris dermatologist **David Peng** about the type of melanoma that presidential candidate John McCain suffered from several years ago.

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