MARCH 12 • 2010

TheWeekly



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HOSPITAL TOUR DE FORCE—The Keck School of Medicine Board of Overseers toured the LAC+USC Replacement Facility on March 4, getting a behind-the-scenes look at how the hospital functions. Board members visited the emergency room, burn ward, helicopter pad and educational facilities including the anesthesiology training room (above) featuring a state-of-the-art patient simulator. From left are: Stephanie Hall, chief medical officer of LAC+USC; Rudolfo Amaya, chief anesthesiologist at LAC+USC Medical center; USC Executive Vice President and Provost C. L. Max Nikias; board member Alfred E. Mann; and Pete Delgado, LAC+USC Medical Center CEO.

USC joins Marino Foundation in fight against autism

By Meghan Lewit

The Keck School of Medicine announced on March 8 a unique collaboration with the Dan Marino Foundation and its Marino Autism Research Institute (MARI) to support multi-disciplinary research into the causes and treatment of autism spectrum disorder.

MARI will donate \$200,000 to investigators at the Zilkha Neurogenetic Institute (ZNI) at the Keck School. The gift will fund collaborative research, led by ZNI Director Pat Levitt, with a growing network of colleagues at affiliate Childrens Hospital Los Angeles and the USC Viterbi School of Engineering. Foundation to bring Marino Autism Research Institute research to USC is a major boost to our scientific community," Levitt said. "Many of us are approaching the complexities of autism from different disciplines. This is a challenge, but we have a collective goal of coming together to apply our expertise in highly creative and unique ways."

ZNI-based work that will immediately benefit from the Dan Marino Foundation support includes:

• Working with Childrens Hospital investigators on studies that will collect and analyze biomarkers, medical, dietary and behavioral information from children to create better diagnosis and treatment opportunities.

• Working with USC Viterbi School of Engineering investigators to develop advanced technologies and utilize existing technologies in ways that will improve capabilities in social behavior and communication for children, adolescents and adults with autism.

The Dan Marino Foundation established MARI in 2005. MARI is the first philanthropically funded "virtual institute" designed to develop and implement cutting-edge research, including clinical studies and training, to address key questions about the causes of autism spectrum

USC researcher sees growing gender gap in stroke prevalence

By Meghan Lewit

When it comes to stroke prevalence, it appears that the gender gap is widening.

According to a new report from a researcher at the Keck School of Medicine, women between the ages of 35 and 64 are almost three times more likely to have a stroke compared to men in the same age group.

The findings were presented Feb. 25 at the American Stroke Association International Stroke Conference in San Antonio, Texas.

"Although mid-life women's blood pressure and lipid profiles are better than men's, they have significantly higher rates of abdominal obesity, which may be driving this trend," said Amytis Towfighi, assistant professor of neurology at the Keck School and the principal investigator of the study.

The investigators first reported on the evolving gender difference in rates of mid-life stroke three years ago. An analysis of stroke prevalence in the United States from 1999 to 2004 found that women ages 45-54 were twice as likely as men to report having had a stroke.

In the current study, the researchers analyzed data from the National Health and Nutrition Examination Surveys 2005-2006 (NHANES), a cross-sectional sample of 10,348 adults in the U.S. The data included 2,198 men and women aged 35-64.

The investigators found that women in the age group were almost three times more likely

"The investment by the Dan Marino

with autism and gastrointestinal conditions

See AUTISM, page 4

See **STROKE**, page 3

USC University Hospital lab fills a need for speed

By Tania Chatila

Wait times at the USC University Hospital laboratory just aren't what they used to be.

Thanks to the collaborative efforts of lab and nursing staff and a team of GE Healthcare consultants, processing speeds at the lab have dramatically increased, allowing employees to address patient care needs more immediately.

"We have seen measurable improvements in our turnaround times," said Jay Santa Ana, director of the lab. "Our stat orders are being processed much faster, and I am confident that we will achieve even more efficient processing times as we continue to refine our model."

Work toward these improvements began last fall when consultants from GE Healthcare, a division of the General Electric Company, began working with the lab staff to refine processes.

After an initial assessment, the consultants and lab staff discovered outpatients were waiting an average of 30 minutes to get their lab work drawn, and inpatient urgent orders were taking as long as two hours to process from the time lab work was ordered. "We found that the bottleneck was on the front end of the process, delays in phlebotomists drawing the patients and delays in receiving the specimens," said Bree Theobald, a GE consultant. "Staff members had competing priorities, were being interrupted with phone calls, and that was making it difficult for them to prioritize draws and transport specimens for processing." Armed with these findings,

the consultants created a working group that brought See LAB, page 2



Ronald Magbuhos, a medical lab technician, processes specimens at the USC University Hospital laboratory.

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'These awards

Two USC researchers win support for promising stem cell research

to Dr. Ying and Dr. Adams reflect both the achievements of our junior faculty and the promise of their future work.' — Martin Pera, director of the Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC

By Meghan Lewit

Keck School of Medicine researchers Qi-Long Ying and Gregor Adams each recently received a prestigious award that will enhance their individual work in stem cell research and therapy development.

Ying, assistant professor of cell and neurobiology at the Keck School and a researcher at the Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC, received a five-year grant totaling \$2 million from the National Institutes of Health to further his groundbreaking research utilizing rat embryonic stem (ES) cells.

In 2008, researchers at the Keck School led by Ying derived rat ES cells for the first time in history. The investigators found that stem cells from rats, which previously have failed to propagate at all, could be grown indefinitely in the laboratory in the primitive embryonic state.

The finding was heralded as a major breakthrough in stem cell research that would enable scientists to create far more effective models for the study of human diseases.

Rats have a heart rate similar to that of humans, as compared to mice, which have a heart rate five to 10 times as fast. Genetically engineered rat models more closely mimic human disease than mouse models.

"Rat physiology is much more closely related to humans in several areas, including cardiovascular disease and obesity," Ying said. "The use of these cells will greatly impact our ability to address fundamental biological questions related to human diseases."

The grant will help the Keck School scientists create "knockout" rats—animals that are genetically modified to lack one or more genes for biomedical research. By observing what happens to animals when specific genes are removed, researchers can identify the function of the gene and whether it is linked to a specific disease.

"We are quite confident that we will generate knockout rats this year," Ying said.

Adams, assistant professor of cell and neurobiology at the Keck School and a researcher at the Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC, is the recipient of a prestigious American Society of Hematology Junior Faculty Scholar Award in basic research.

The award of \$150,000 over two years, beginning in July 2010, will support his research into the key mechanisms by which hematopoietic, or blood-forming, stem cells are retained in a specific area known as "the stem cell niche" following bone marrow transplants.

"We are using a pharmacological approach to modulate the function of the hematopoietic stem cells," Adams said. "Therefore, if we observe any beneficial effects in the engraftment of the stem cells, the results of these studies have the potential to be rapidly translated into clinical studies involving hematopoietic stem cell-based therapies." The ASH Junior Faculty Scholar Award program is designed to support hematologists who have chosen a career in research by providing partial salary or other support during the critical period required for completion of training and achievement of status as an independent investigator. ASH is the world's largest professional society concerned with the causes and treatment of blood disorders.

"These awards to Dr. Ying and Dr. Adams reflect both the achievements of our junior faculty and the promise of their future work," said Martin Pera, director of the Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC.

He added, "This basic research in stem cell biology provides the platform for future development of cell-based therapies and new medicines to treat a range of medical conditions. I am delighted at the recognition our center faculty are receiving at the national level, and I congratulate the researchers on these new grants."



A PACKED HOUSE FOR STEM CELL LECTURE—Helen Blau (right), professor of molecular pharmacology and director of the Baxter Laboratory for Stem Cell Biology at Stanford University, visited the campus on Feb. 25 to present her lecture, "Regulation of Stem Cell Fate," to a standing-room only crowd. Blau, an internationally recognized scientist, appears with best Kieji Achieve of the Achieve of the Achieve of the Cell Fate, "Bayes of the Cell Fate," to a standing-room only crowd. Blau, an internationally recognized scientist, appears with

LAB: Sample processing speed jumps

Continued from page 1 together nurses from 4-ICU and lab staff to design solutions that worked for everyone. The common goal was to reduce the total processing time and provide better care to the patients.

"We knew there was a problem, but we didn't know how big a problem it was until we got a chance to meet with the lab staff and other disciplines," said Maria Vizurraga, a nurse in 4-ICU. "We really collaborated together to find a uniform system that could work for everyone."

Solutions included the designation of a specific "traffic control" person to more effectively prioritize incoming orders for the phlebotomists, implementing lab label printers on the nursing floor, and the distribution of text pagers to phlebotomists for faster response time to urgent orders. These solutions have been piloted on one inpatient floor. The results have been promising and hospital-wide implementation is in progress.

"I've really seen tremendous improvement," said Ronald Magbuhos, a medical lab technician. "By the time I start in the mornings, half of the lab samples from the floor are ready to be processed."

At the beginning of last month, Santa Ana said inpatient urgent processing times were reduced by 30 percent—from 120 minutes to 85 minutes.

The goal is to report results within 60 minutes for urgent orders hospital-wide. For outpatients, the goal is to get patient waiting times down to 10 minutes.

Santa Ana commended his entire staff for coming together and working diligently

nost Kinji Asanina, of the Keck School of Medicine Department of Pathology.

Next Issue: March 19

The Weekly is published for the faculty, staff, students, volunteers and visitors in the University of Southern California's Health Sciences Campus community. It is written and produced by the Health Sciences Public Relations and Marketing staff. Comments, suggestions and story ideas are welcome. Permission to reprint articles with attribution is freely given.

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Phone: 323-442-2830 Fax: 323-442-2832 E-mail: hscwkly@usc.edu Web: theweekly.usc.edu RSS: http://www.usc.edu/hscw to improve lab processes.

"This is about giving our staff the tools they need to get their jobs done quickly and efficiently," said Santa Ana. "In this case, timely lab results are critical to the management of patient care. Now, we have more tools to ensure that."

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.

USC, Israeli physicians reunite after Haiti medical mission

By Leslie Ridgeway

On Jan. 16, medical and surgical professionals from two different nations met in Haiti with a common goal—to help those injured in a devastating earthquake just days before.

Members of the groups the USC/LA County Haiti Medical Aid Team and the Israeli Defense Force (IDF) medical team—discussed their experiences and international disaster response at a special March 5 reunion luncheon at Edmondson Faculty Center.

The group of 16, which included representatives from Mayor Antonio Villaraigosa's office and the Consulate General of Israel, Los Angeles, was hosted by Keck School of Medicine Dean Carmen A. Puliafito, who was instrumental in making arrangements for the USC/ LA County team to fly within three days of the earthquake to Port-au-Prince, Haiti. The day that the nine-member



Ramon Cestero, LAC+USC Medical Center trauma surgeon, gives an interview regarding his experiences as part of a March 5 reunion at the Health Sciences Campus of volunteer physicians who travelled to Haiti following its recent earthquake.

team landed in Haiti, they were immediately enlisted by the Israeli Defense Force, which had set up a fully operational field hospital near a soccer field and needed medical personnel to assist in giving care.

"We were able to send a

whole trauma team to be plugged in, and you provided us an environment where we could help," Puliafito said to Ofer Merin, IDF Lieutenant Colonel, Res., who helped organize the Israeli response. "We are interested in global health, and this is why global

USC Neighborhood Outreach now accepting grant applications

Benefits-eligible university employees and departments are eligible for a USC Neighborhood Outreach (UNO) grant when they partner with a communitybased, tax-exempt organization that operates and based within UNO boundaries surrounding the University Park and Health Sciences Campuses.

The mission of USC Neighborhood Outreach is to provide greater coherence, visibility and coordination of the university's partnerships with the community. Its priorities are to: improve the quality of K-12 education, and the quality of life for children and their families; improve community safety through community policing or other initiatives; provide assistance to projects that result in economic development, including entrepreneurial stimulation, neighborhood beautification and employability enhancement for local residents; and provide assistance to organizations that offer opportunities for home ownership to long-term, lowincome USC employees who live in our neighborhoods.

Visit http://tinyurl.com/ ykopa3q for application criteria and service boundary maps. Applicants must attend a mandatory grant writing workshop. Application deadline is March 31, 2010.

STROKE: More study needed on how to mitigate risk factors

Continued from page 1

than men of the same age to report having had a stroke (2.9 percent vs. 1.07 percent).

A comparison of vascular risk factors showed that women had better than average blood pressure, homocysteine and triglyceride levels than men, but women were more likely to have abdominal obesity (61.9 percent vs. 50 percent). Abdominal obesity is a known predictor of stroke in women and may be a key factor in the mid-life stroke surge in women, Towfighi said. Independent stroke risk factors for women also included: elevated homocysteine (amino acid in the blood) levels, history of heart attack and diabetes mellitus.

"Further investigation is needed to understand this apparently evolving sex disparity in mid-life stroke prevalence," Towfighi said. "Better management of stroke risk factors such as coronary artery disease, diabetes and abdominal obesity may help mitigate this worsening trend in women's health." medicine occurs—people all helping for one reason."

Merin said within hours of news of the earthquake, IDF members were penciling out the logistics and gathering supplies without waiting for the Israeli government to give its approval—which it eventually did. As a result, the IDF was one of the first medical teams on the ground in Haiti.

USC/LA County Haiti Medical Team members expressed admiration for the IDF team members and facility, which included a neonatal intensive care unit, imaging facilities, wi-fi and a fax machine. The IDF team also included a social worker and psychologist, who set aside a section of the field hospital for medical personnel to relax.

"They thought of everything," said USC/LA County team member Kara Hammons, an emergency room nurse.

Puliafito noted that Henri Ford, vice dean of medical education for the Keck School and surgeon-in-chief, Childrens Hospital Los Angeles, is working on a plan to build acute care and medical facilities in Haiti, which is his native country. 'We were able to send a whole trauma team to be plugged in, and you provided us an environment where we could help.'

---Carmen A. Puliafito, dean of the Keck School of Medicine, to Ofer Merin, Israeli Defense Force Lieutenant Colonel, Res.



WELCOME TO USC—Renowned breast cancer researcher Debasish (Debu) Tripathy, enjoys a formal welcome reception in his honor on Feb. 23. Tripathy joined the Trojan Family as professor of medicine last year and holds the Priscilla and Art Ulene Chair in Women's Cancer. He appears above with Elizabeth Fini, vice dean for research at the Keck School.

The Weekly NEWSMAKERS

On March 8, KPCC-FM interviewed associate professor of ophthalmology **James Weiland** about an eye trauma program based at the Keck School of Medicine that will be supported by \$800,000 in funding from the U.S. Department of Defense.

A March 7 **Desert Sun** article reported on a partnership between the Keck School of Medicine and Eisenhower Medical Center in Rancho Mirage that will send medical school students to the hospital for four-week clerkships starting in July.

A March 6 *L.A. Weekly* cover story cited multiple USC studies, including professors of preventive medicine **Rob McConnell** and **W. James Gauderman's** Children's Health Study from 2004 which showed that children in polluted areas had underdeveloped lungs, and a 2007 study that used a more detailed analysis to show children living within roughly a block of a freeway also suffer reduced lung development. The story also quoted associate professor of clinical preventive medicine **Andrea Hricko**.

On March 5, KCSI-TV covered the reunion of members of the USC/LA County Haiti Medical Aid Team and the Israeli Defense Force Medical Team. Over lunch, the teams discussed their experiences providing surgical and medical care to earthquake victims in Haiti. Jewish Life TV also covered the event.

A March 3 *Forbes* article quoted professor of psychiatry, neurology and gerontology **Lon Schneider** about the drug Dimebon, which has been touted as being able to slow the course of Alzheimer's disease. A widely carried March 1 Associated Press article reported that Flora L. Thornton Chair of the Department of Preventive Medicine **Jonathan Samet** was named chair of the Food and Drug Administration's new tobacco advisory panel, which will meet for the first time this month to focus on the health impact of menthol cigarettes. HealthDay News also covered the story.

On Feb. 25, *Nature* ran an op-ed by Flora L. Thornton Chair of the Department of Preventive Medicine **Jonathan Samet** and assistant professor in the Department of Preventive Medicine and associate director for the USC Institute for Global Health **Heather Wipfli** about the need to curb smoking in the developing world.

Keck School research program energizes young physician-scientists

By Jon Nalick

Fourth-year medical student Ashanti Franklin is not just absorbing medical knowledge this year-she's adding to it.

As part of a program designed to immerse interested Keck School medical students in basic and clinical

research, Franklin and six of her peers are adding an entire year to their studies, in which they are paired with faculty mentors and focus exclusively on biomedical research. For example, Franklin is spending her year working with Henri Ford, vice dean of medical

Calendar of Events

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

Tuesday, Mar. 16

9 a.m. Neurology Grand Rounds. "Advances in Diagnostic Screening and Treatment of Balance Disorders," Dennis O'Leary, USC. ZNI 112. Info: (323) 442-7686

Noon. KSOM Research Seminar. "Mechanism and Targeting of DNA Binding by the RAG Proteins During V(D)J Recombination," David Schatz, Yale, NRT Aresty Aud. Info: (323) 442-1144

Wednesday, Mar. 17

Noon. ZNI Seminar. "Novel Computational Biology Approaches to Study Sequence Variants and Copy Number Variants in Human Diseases," Kai Wang, Children's Hospital of Philadelphia. ZNI 112. Info: (323) 442-3219

Friday, Mar. 19

8:30 a.m. "Metalloproteinases: Effectors of Inflammation," William Parks, Univ. of Washington. IRD 732. Info: (323) 226-7923

11 a.m. – 2 p.m. USC University Hospital Cafeteria Farmer's Market. Fresh fruits and vegetables available for purchase. Info: (323) 442-5308

11 a.m. Hematology Grand Rounds. "AIDS Related Lymphomas: Update 2010," Alexandra Levine, City of Hope. IPT C2J103. Info: (323) 865-3950

Signaling & Pathologies in Primary Cell Cancers and Autoimmunity: The Essential Link Between Mechanism and Accurate Diagnostics," Garry Nolan, Stanford. CSC 201. Info: (310) 272-1640

Monday, Mar. 22

Noon. KSOM Research Seminar. "The Cochlear Amplifier – A Tale of Two Motors," Federico Kalinec, House Ear Inst. NRT

Aresty Aud. Info: (323) 442-1144

Wednesday, Mar. 24

8:30 a.m. 5 p.m. HSC@USC Organizational Conference, Mayer Auditorium. Info: e-mail ResAdv@keck.usc. edu

8:30 a.m. "Lung Transplant," Michael McFadden, USC. IRD 732. Info: (323) 226-7923

Noon. USC Center for Excellence in Teaching. "Best Practices to Provide Effective Feedback and Evaluate Your Learners," Win May and Donna Elliott, USC. KAM B21/23. Info: (213) 740-3959

Noon. "Financing a Career in Primary Care," Hector Flores and Chris Hiromura, White Memorial Medical Ctr., Alicia Rugley, USC. HMR 100. Info: (323) 442-1678

Thursday, Mar. 25

education for the Keck School and surgeon-in-chief, Childrens Hospital Los Angeles, to study possible ways to mitigate the effects of necrotizing enterocolitis-death of intestinal tissue-in infants with the disease.

Franklin said the Dean's Research Fifth Year Scholars Program, created by Keck School Dean Carmen A. Puliafito in 2008, provides "a great opportunity for medical students to participate in translational research and plays a role in building a foundation in the careers of future physician-scientists."

Robert Decker, research professor of cell and neurobiology and director of the program, said its chief aim is to develop a "medical research mind set" in those students who choose to join the program.

"The fifth year program is developed to provide Keck students an opportunity to take a complete year off to hone their research skillsand it really takes a year for them to become proficient in whatever field of biomedical research they decide to explore," he said.

Decker noted that summer research experiences and the second-year required student project provide an important introduction for medical students to gain some familiarity with the medical research process, but the fifth year-long immersion in research provides a much deeper perspective into how biomedical research leads to new clinical treatments.

He added, "I think it opens their eyes into how biomedical research is conducted and provides them the necessary experience to decide whether their future will include medical research, rather than if they had four straight years of medical school and then had

AUTISM: New partnership to



From left: Keck School of Medicine Dean's Research Scholars Jackie Weinstein, Daniel Lie bertz, Ashanti Franklin, Akash Gupta, Lloyd Cuzzo, Shabnam Khashabi and Lily Tung, with program director Robert Decker.

to decide, 'Do I want to do research or not?""

Decker also noted that the Keck School "is transforming itself from a medical school originally noted for its outstanding clinical medicine into a medical school that also promotes basic and clinical biomedical science and translational medicine."

That change benefits the school because it helps attract more highly qualified students and benefits Keck School graduates by equipping them to understand—and explain to patients-the science underlying the complex treatments they prescribe.

Fourth-year student Lloyd Cuzzo, who is researching Alzheimer's disease optic neuropathy in the lab of Alfredo Sadun, professor of ophthalmology at Doheny Eye Institute, said he agreed, adding that he appreciated the experience the program provides and is "extremely excited to devote an entire year to it."

USC Health Sciences Public Relations and Marketing 1975 Zonal Ave. KAM 400

"This [is] an opportunity for me to learn new laboratory techniques, to make a contribution to our knowledge and to develop the skills necessary to combine research and clinical ophthalmology as a physician-scientist, he said."

Students in the program are involved in a wide range of research topics, including biomechanics, pediatrics, cancer and ophthalmology. They meet regularly with mentors and monthly with their peers in the program to share experiences and tips.

Decker said they also go to scientific and clinical meetings in their respective disciplines to report their research results and prepare publications and papers. The program culminates in the spring when they present their findings to the Keck faculty and students.

In addition to Cuzzo and Franklin, the 2009-2010 Dean's Research Scholars are: Jackie Weinstein, Daniel Liebertz, Akash Gupta, Shabnam Khashabi and Lily Tung.

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NOON. Case Presenta tions," Kian Keyashian, USC. OPT A5C129. Info: (323) 409-7995

Noon. Medicine Grand Rounds. "Osteoporosis," Ashkan Etemadian, USC. IPT Conference Rm. B. Info: (323) 226-7556

2 p.m. Center for Applied Molecular Medicine Physical Sciences in Oncology Seminar. "Single Cell

Noon. KSOM Cellular Homeostasis Lecture Series. "MicroRNA Regulation of Cell Fate Decisions," Deepak Srivastava, UC San Francisco. MCH 156. Info: (323) 442-3109

4 p.m. "Immune Thrombocytopenic Purpura: Is the Management Paradigm Changing?" James George, Univ. of Oklahoma. NRT LG503. Info: (323) 865-3913

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 The Weekly, KAM 400 or fax to (323) 442-2832, or e-mail to eblaauw@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.

fight disorder

Continued from page 1 disorder and their treatment. "We are excited to support the Keck School and the University of Southern California, whose cutting-edge research and multidisciplinary approach are so important as we continue to try and find better ways to diagnose autism and implement more effective treatment programs," said Mary Partin, CEO of the Dan Marino Foundation. "The results of their research will help us create more precise programs and open doors towards helping children, adolescents and young adults with autism."

Levitt played a key role in

establishing MARI while he was director of the Vanderbilt Kennedy Center for Research on Human Development at Vanderbilt University. He joined USC in July 2009 to lead the implementation of a strategic plan to understand the genetic and environmental basis for brain diseases.

"The Dan Marino Foundation recognizes the unique nature of our interdisciplinary efforts, and we are committed to using this initial investment to foster highly novel research projects that will make a difference in the lives of individuals with autism and their families," Levitt said.