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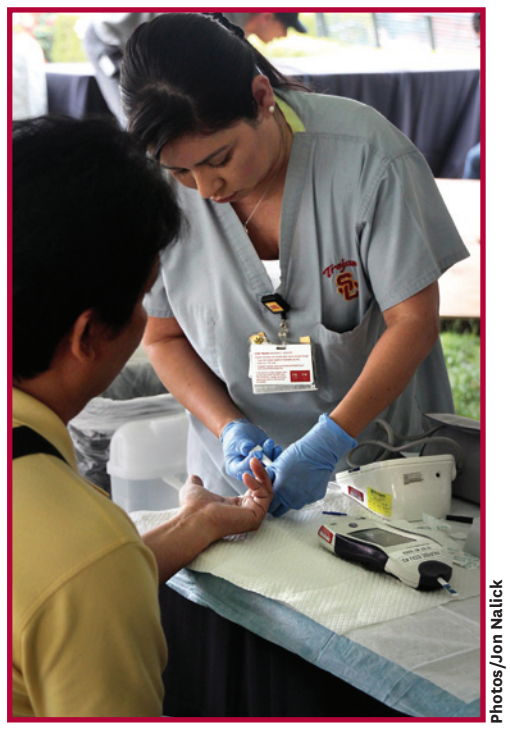
USC turns the page on the *L.A. Times* Festival of Books

A new feature at this year's festival was the USC Health Pavilion. Organized by practitioners from the Keck Medical Center of USC, the USC School of Pharmacy and USC Divisions of Occupational Science and Occupational Therapy, and Biokinesiology and Physical Therapy, the pavilion proved to be a popular attraction.



Photos/Jon Nalick

Left, at the *L.A. Times* Festival of Books April 22 at the University Park campus, visitors flock to the Keck Medical Center of USC booth to pick up free visors and sunscreen. Right, Marlene Ayala performs a blood-sugar test at the USC Health Pavilion.

By Diane Krieger

"All of you here this morning should take great pride in the fact that we are part of the largest public literary festival in America."

With those words, USC President C. L. Max Nikias kicked off the 17th annual *Los Angeles Times* Festival of Books on April 21. The two-day festival attracted a record-breaking 150,000 guests to the University Park campus.

Blue skies smiled down on crowds of book lovers as they navigated a sea of white-tented booths dotting the campus, representing hundreds of exhibitors. More than 400 authors gave readings and appeared on panels in 14 different auditoriums and signed their books at seven signing areas.

A new feature at this year's festival was the USC Health Pavilion. Organized by practitioners from the Keck Medical Center of USC, the USC School of Pharmacy and USC Divisions of Occupational Science and Occupational Therapy, and Biokinesiology and Physical Therapy, the pavilion proved to be a popular attraction.

"At some of the health fairs we don't see as many participants, but today it's been really great," said first-year USC pharmacy student Tamara Chinarian, who was working one of a handful of diabetes screening stations in the pavilion.

Nearby, her classmates took blood pressure readings and staffed a "brown-bagging event," reviewing patients' various medications for possible drug interactions.

See **FESTIVAL**, page 3

USC Urology showcases robotic techniques in China

By Cheryl Bruyninckx

Six surgeons from the USC Institute of Urology recently returned from a successful six-day trip to China, where they performed 15 robotic surgeries, including robotic radical cystectomy for bladder cancer.

"The mission of our trip was to make robotic bladder cancer surgery more efficient," said Inderbir Gill, professor and chair of the USC Institute of Urology. "Our team exceeded our own expectations."

Radical bladder cancer surgery is among the most major surgeries performed by urologists. It is typically performed as open surgery and takes more than five to six hours. Urologists are exploring performing this operation robotically. However, robotic radical cystectomy currently takes seven to nine hours, and typically the urinary diversion part of the operation is not done robotically.

"Our goal was to get robotic cystectomy down to the five to five-and-a-half hour range, admittedly a very high target," Gill said. "We actually were able to cut the operating time down to 4.7 hours, and were able to do the entire operation robotically."

In the 12 cystectomy patients, there were no complications and the team was able to collect significant data. It is anticipated that several peer-reviewed publications will result from these data and, in August 2012, a postgraduate teaching course in robotic cystectomy is being organized at USC.

"We believe this is going to change the way robotic bladder cancer surgery is performed in the United States," Gill said.

Other members of the USC team included Mihir Desai, Hui Wen Xie, Alvin Goh, Andre Abreu, Adrian Fairey, Leo Chu and Karan Gill.

Left, Inderbir Gill, professor and chair of the USC Institute of Urology, performs a radical cystectomy and urinary diversion with a Chinese urologist.

Keck School cultivates budding stem cell researchers from area high schools

By Leslie Ridgeway

Two new summer education programs at the Keck School of Medicine of USC aim to give high school students with aspirations for careers in biomedical research a hands-on opportunity to gain experience in the field.

The USC CIRM STAR High School Summer Research and Creativity program will enable 10 interns to spend eight weeks working with USC scientists, gaining experience in stem cell research, communication strategies and public policy development.

In addition, the USC Early Investigator High School (EiHS) summer program in stem cell research will place students from the Harvard-Westlake School and the Marlborough School in an eight-week program working with faculty scientist mentors who will supervise the students as they conduct research and teach them about lab procedures, ethics and compliance. Both schools are in the Los Angeles area.

"These new summer programs will not only encourage students to enter the promising field of stem cell research, but give them opportunities for establishing lasting friendships with other students and their faculty mentors," said Keck School Dean Carmen A. Puliafito.

These programs are among the many that USC offers to high school students interested in careers in science and medicine. Both programs will begin in June.

"We are pleased to have the opportunity to give these nascent scientists a head start in their careers, and perhaps the spark to make them want to choose stem cell research for their life's work," said Andrew McMahon, director of the Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC. "Researchers need an appreciation of the world around them, and this program will provide that important stimulation."

The USC CIRM STAR High School Summer Research and Creativity program is funded by a $264,000 Creativity Award from the California Institute of Regenerative Medicine (CIRM). USC is one of nine California institutions

See **STEM CELLS**, page 2

USC research suggests way to reverse effects of Alzheimer's

'We tested the mice for cognition and memory, and learning and memory, and there was tremendous improvement—almost back to normal—compared to mice without the Alzheimer's pathology.'

—Berislav Zlokovic, professor and chair of the Department of Physiology and Biophysics and deputy director of the Zilkha Neurogenetic Institute

By Leslie Ridgeway

A USC researcher has made an important molecular discovery that could lead to the reversal of some of the worst effects of Alzheimer's disease.

Berislav Zlokovic, professor and chair of the Department of Physiology and Biophysics at the Keck School of Medicine and deputy director of the Zilkha Neurogenetic Institute, led a team from the University of Rochester that found that a synthesized compound known as FPS-ZM1 can actually reverse inflammation and improve blood flow in the brains of mice, dramatically improving their ability to learn and think.

The research was published in early March in the *Journal of Clinical Investigation*.

FPS-ZM1 specifically targets RAGE (Receptor for Advanced Glycation Endproducts), a molecular vehicle on which amyloid beta peptides travel in the brain. Amyloid deposits are known to cause inflammation and obstruct blood flow in the brain.

"Unexpectedly, by blocking RAGE in brain cells, we stopped the synthesis of amyloid in the brain," said Zlokovic. "I believe RAGE is a tremendous target for Alzheimer's disease, and that we can reduce the cognitive problems patients experience if we can utilize RAGE as a therapeutic target."

Zlokovic was one of the first researchers to identify the role of RAGE in Alzheimer's disease, publishing a paper on the discovery of the molecule in *Nature Medicine* in 2003.

Zlokovic's team screened more than 5,000 compounds before finding FPS-ZM1, which is significant because it can cross the blood-brain barrier. The researchers tested the compound in older mice bred to accumulate the amyloid beta peptide quickly in their brains.

After FPS-ZM1 was administered, the mice experienced a decrease of up to 80 percent in levels of amyloid beta and 80 percent less inflammation, Zlokovic said. The compound was also tolerated well by the mice.

"We tested the mice for cognition and memory, and learning and memory, and there was tremendous improvement—almost back to normal—compared to mice without the Alzheimer's pathology," he said.

Additional research must be done before FPS-ZM1 can be tested in humans, Zlokovic said.

The Zilkha Neurogenetic Institute is part of the Keck School of Medicine of USC. The research was supported by grants from the National Institutes of Health, the Institute for the Study of Aging, and the Alzheimer's Drug Discovery Foundation.

Noah Berger

SAN FRANCISCO ALUMNI OFFICE OPENS—*The Keck School of Medicine of USC held the first ever event at the newly opened San Francisco regional USC alumni and advancement office April 19. Hosted by Dean Carmen A. Puliafito (right), more than 40 Keck School alumni and guests attended the reception, which was emceed by David Rosselli (left), executive director of the new office.*

STEM CELLS: Program teaches high school students stem cell science, ethics

Continued from Page 1

to receive a CIRM Creativity Award in 2012. The grant is administered under the USC Science, Technology and Research (STAR) program, a collaborative science program between USC and nearby Francisco Bravo Medical Magnet High School that has existed for 23 years.

"Expansion of the USC STAR summer research program to the Eli and Edythe Broad Center is an exciting new chapter in our science education endeavors and partnership with Bravo High School," said Roberta Diaz Brinton, director of the USC STAR Program and professor in the USC School of Pharmacy. "Stem cell biology is one of the most exciting areas of discovery and translational research, and the researchers within the Broad Center are among the very best in the field. We are honored to have been chosen by CIRM to advance their mission and ours to create the next generation of discoverers and innovators in stem cell biology and regenerative medicine."

The USC STAR summer research program begins with a week-long hands-on stem cell biology techniques workshop. The interns then join a research team within the Broad Center or an associate member laboratory, participate in meetings and a social event to create a CIRM student network, culminating with a final research presentation by all CIRM high school student interns.

Students will also help plan a forum titled "Stem Cells, Creativity and the Public," intended to integrate stem cell biology research with expression in the humanities, public communication, and public policy decision-making.

The EiHS program offers similar experiences for budding stem cell scientists. EiHS was developed by Victoria Fox, director of the stem cell core at the Eli and Edythe Broad Center, with support from Jeff Gunter, a Los Angeles-area physician and chair of the center's advisory board.

"There is a lot of interest from high school students in Los Angeles for internships in stem cell labs," said Fox, who directs the EiHS program. "I am enthusiastic about education and have worked with several students, but the demand became so high that we decided to start a formal program."

Students in the EiHS program will spend the first week learning basic lab and stem cell training, and segue into forums and seminars on topics from conducting responsible, ethical research and literature searching, to how to develop a professional science career and the perceptions of the public and news media of stem cell research. The students will conduct a mentor-supervised research project, attend seminars, author an online journal and generate a poster for an adjudicated poster session at USC.

Applications are now being accepted at the Harvard-Westlake School. Applications for the EiHS program will be selected based on grades and interest in science, as well as letters of recommendation from science teachers. Students will also undergo interviews by a panel of scientists at the Keck School.

"We are honored to be a part of the EiHS program," said Jeanne Huybrechts, head of Harvard-Westlake School. "We appreciate the opportunity to help craft this program. We plan to encourage our own most promising young investigators to participate in the program and become an integral part of the stem cell disease teams at the Keck School."

Gunter is working with other schools in hopes of expanding the EiHS program in the future so students across the region can participate.

"The EiHS program will elevate and transform our high school teenagers into promising young investigators who will lead us and our medical community in finding cures for generations to come," said Gunter. "If our children can begin their violin studies at age 3, and formal sports training at an age of 4, without a doubt these exceptional high school students, regardless of socioeconomic backgrounds, are ready and can succeed at our program."

The Weekly

Next Issue: May 4

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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USC breast cancer research may lead to optimal targeted therapies

By Leslie Ridgeway

The constantly moving target of breast cancer is closer to settling in the crosshairs of researchers, with the publication of groundbreaking genomic research by USC scientists.

The study, "The genomic and transcriptomic architecture of 2,000 breast tumors, reveals novel subgroups," published recently in the journal *Nature*, has determined the molecular fingerprint of thousands of breast cancer tumors. The research offers clues that could help physicians tailor treatment to individual patients, especially those who suffer from rare cancers with poor outcomes.

"Many breast cancer patients don't fit into a well-characterized subgroup, and hence, optimal treatment strategies may not be available," said first author Christina Curtis, assistant professor of preventive medicine at the Keck School of Medicine of USC. "Few targeted therapies exist for breast cancer. This research identifies at least 10 subgroups of breast cancer, and that opens the door to discovering what treatments will be most effective in specific subgroups of patients."

Christina Curtis

The research, considered the largest global gene study of breast cancer tissue, was funded by Cancer Research UK's Cambridge Research Institute, in collaboration with the BC Cancer Agency, Vancouver, British Canada.

The scientists analyzed the DNA and RNA of 2,000 tumor samples taken from women diagnosed with breast cancer between five and 10 years ago.

The team was able to reclassify breast cancer into 10 new categories grouped by common genetic features that correlate with survival. They identified several new breast cancer genes that drive cancer progression.

They also discovered the relationship between the breast cancer genes and cell signaling pathways, or networks that control cell growth and division. Understanding this relationship could help researchers block or otherwise interfere with those pathways, disrupting cancer cell growth.

"We had hoped to be able to refine the landscape of breast cancer, and it's exciting that we have identified both new cancer genes, as well as new subgroups of disease, some of which have very poor outcome and will likely benefit from novel therapies," said Curtis.

Also collaborating as co-author on the paper with Curtis is Simon Tavaré, professor of mathematics, biological sciences and preventive medicine, with appointments at the Keck School and USC Dana and David Dornsife College of Letters, Arts and Sciences.

FESTIVAL: Hundreds turn out for free health screenings

Continued from Page 1

Marta Correa, who lives in the University Park neighborhood, had just gotten her blood pressure checked.

"I just want to know if I'm healthy," Correa said, standing beside her two young daughters. "I recently changed my diet. It's always good to know."

Next door at the Keck Medical Center booth, children lined up for a free workbook, "Be a Germ Buster," printed in English or Spanish. Many availed themselves of the four adjacent hand-washing stations. Appropriately, given the blazing sun, volunteers were handing out plastic visors with the medical center logo and individual-sized bottles of SPF 15 sunscreen.

One of Saturday's first panels featured David Agus, professor of medicine and engineering, director of the Center for Applied Molecular Medicine at the Keck School of Medicine of USC, and director of the USC Norris Westside Cancer Center.

During his presentation, Agus thrilled the mostly gray-haired crowd in Hoffman Hall's auditorium with his outside-the-box vision of a disease-free future from his *New York Times* bestselling book *The End of Illness*.

The USC Civic Engagement booth served as headquarters for the USC Book Drive 2012, which aims to collect 5,000 new and gently used children's books for distribution to the 15 members of the USC Family of Schools, and has had drop locations throughout the Health Sciences campus. Reaching that goal won't be a problem, according to volunteer Guadalupe Garrido.

"It's going really well," said Garrido, who also is president of the Neighborhood Academic Initiative's parent council. "A little while ago one lady came with three bags of books, and they were new! We have a lot of boxes in the back, and a lot more books back at the University Village."

The *L.A. Times* Festival of Books is in its second year at USC, and Nikias noted a "special historical connection" between the university and the newspaper.

"USC and the *L.A. Times* are the two oldest surviving nonreligious institutions in the city of Los Angeles," Nikias said. "Our university was established in 1880, while the first issue of the *L.A. Times* rolled off the presses in 1881. Since that time, we have worked to advance the city and to promote a love of learning."

Tania Chatila

The 140-person USC Norris team gathers at the start of the 2010 Revlon Run/Walk to raise money for women's cancer research.

Join Team USC Norris for the Revlon Run/Walk

USC Norris Cancer Hospital is participating in the 2012 Entertainment Industry Foundation (EIF) Revlon Run/Walk For Women, which raises funds to support women's cancer research and treatment, and to support women facing cancer and their loved ones.

The event is Saturday, May 12, at the Los Angeles Memorial Coliseum at Exposition Park. The fee to participate is $35. It will be $40 the day of the event. The registration fee includes an EIF REVLON Run/Walk For Women T-shirt and goodie bag. Team members will also receive a Team USC Norris T-shirt.

To join Team USC Norris, visit http://tinyurl.com/6nvtx2v.

Those interested in participating can also go to www.revlonrunwalk.org, click on the Los Angeles date and search for the USC Norris Team. For more information, contact Tonya Strom at (323) 865-0668 or tstrom@usc.edu.

The Weekly ETCETERA

Jacques Van Dam, professor of medicine and director of clinical gastroenterology at the Keck School, recently served as the editor of the March 2012 edition of *Gastroenterology Clinics of North America*.

The monograph consisted of multidisciplinary articles and research on modern management of benign and malignant pancreatic disease. Other featured Keck School physicians included **James Buxbaum, Kiran K. Dhanireddy, Yuri Genyk, Melissa J. Labonte, Heinz-Josef Lenz, Lea Matsuoka, David Paez, Dilip Parekh** and **Rick Selby**.

Katherine Sullivan will be honored with the Distinguished Alumna of the Year Award from Marquette University's College of Health Sciences and the Marquette University Alumni Association in a ceremony on April 28. Sullivan earned her bachelor's degree in physical therapy from Marquette University in 1978.

Sullivan is an associate professor of clinical physical therapy in the division of biokinesology and physical therapy at the Ostrow School of Dentistry and a faculty fellow at the University of Southern California.

Leslie Saxon, professor of clinical medicine and executive director of the USC Center for Body Computing, recently spoke at the 2012 TEDMED health and technology conference, discussing the center's work in wireless health monitoring.

Her talk focused on creating a platform to collect millions of heart rates throughout the world and developing analytics to understand this data.

Program on Global Health & Human Rights Director **Sofia Gruskin** discussed the crucial intersection of human rights and global health on April 16 at the University of North Carolina at Chapel Hill. She examined a rights-based approach to global health, including the policy considerations that impact access to public health systems and services, especially for marginalized populations.

Adam Leventhal, assistant professor of preventive medicine, has been named the recipient of the 2012 Young Psychopharmacologist Award from the American Psychological Association's division of psychopharmacology and substance abuse. The award honors a young scientist doing original, meritorious work in psychopharmacology and encourages excellence in research at the interface between the disciplines of pharmacology and psychology.

W. King Engel, professor of neurology and pathology and director of the USC Neuromuscular Center, and **Valerie Askanas**, professor of neurology and pathology and co-director of the center, and have co-authored a text, *Muscle Aging, Inclusion-Body Myositis and Myopathies*, which was recently published by Wiley Blackwell. The 262-page book explores the clinical and pathological expression of muscle weakness in aging persons.

Calendar of Events

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

Sunday, Apr. 29

3 p.m. KSOM Orange County Reception: Dean Puliafito hosts the OC Trojan Family and introduces the newly appointed director of the USC Norris Comprehensive Cancer Center, Stephen Gruber. Balboa Bay Club, 1221 West Coast Highway, Newport Beach, CA 92663. To RSVP: keck.usc.edu/balboabayclub Info: (323) 442-1767

Monday, Apr. 30

Noon. KSOM Research Seminar. "Vault Nanoparticles: A Platform Technology for Therapeutic Delivery and Vaccine Development," Leonard Rome, UCLA. NRT Aresty Auditorium. Info: (323) 442-7732

1 p.m.-5 p.m. KSOM Medical Student Research Forum & Poster Day 2012. Oral Presentations, 1-3 p.m. KAM Mayer Auditorium. Poster Presentations, 3-5 p.m. Pappas Quad. Info: (323) 442-2374

Tuesday, May 1

11:45 a.m. Psychiatry Grand Rounds. "Inter-Analytic Couples Therapy," Walter Brackelmanns, UCLA. CSC 250. Info: (323) 442-4065

Wednesday, May 2

1 p.m.-5 p.m. KSOM Medical Student Research Forum & Poster Day 2012. Oral Presentations, 1-3 p.m. KAM Mayer Auditorium. Poster Presentations, 3-5 p.m. Pappas Quad. Info: (323) 442-2374

Friday, May 4

Noon. Medicine Grand Rounds. "Sarcoidosis," Mutsumi Kioka, USC. IPT Conference Room B. Info: (323) 226-7556

Wednesday, May 9

9 a.m.-4 p.m. USC AirPollBrain Retreat 2012. Various speakers. ZNI 112. Info: (323) 442-2144

Saturday, May 12

7 a.m.-noon. Revlon Run/Walk For Women at Los Angeles Memorial Coliseum at Exposition Park. The cost to run/walk is $35 through May 11 ($40 day of the event). Your registration fee includes an EIF REVLON Run/Walk For Women T-shirt and goodie bag. It will also include a USC Norris Team T-shirt. Info: (323) 865-0668

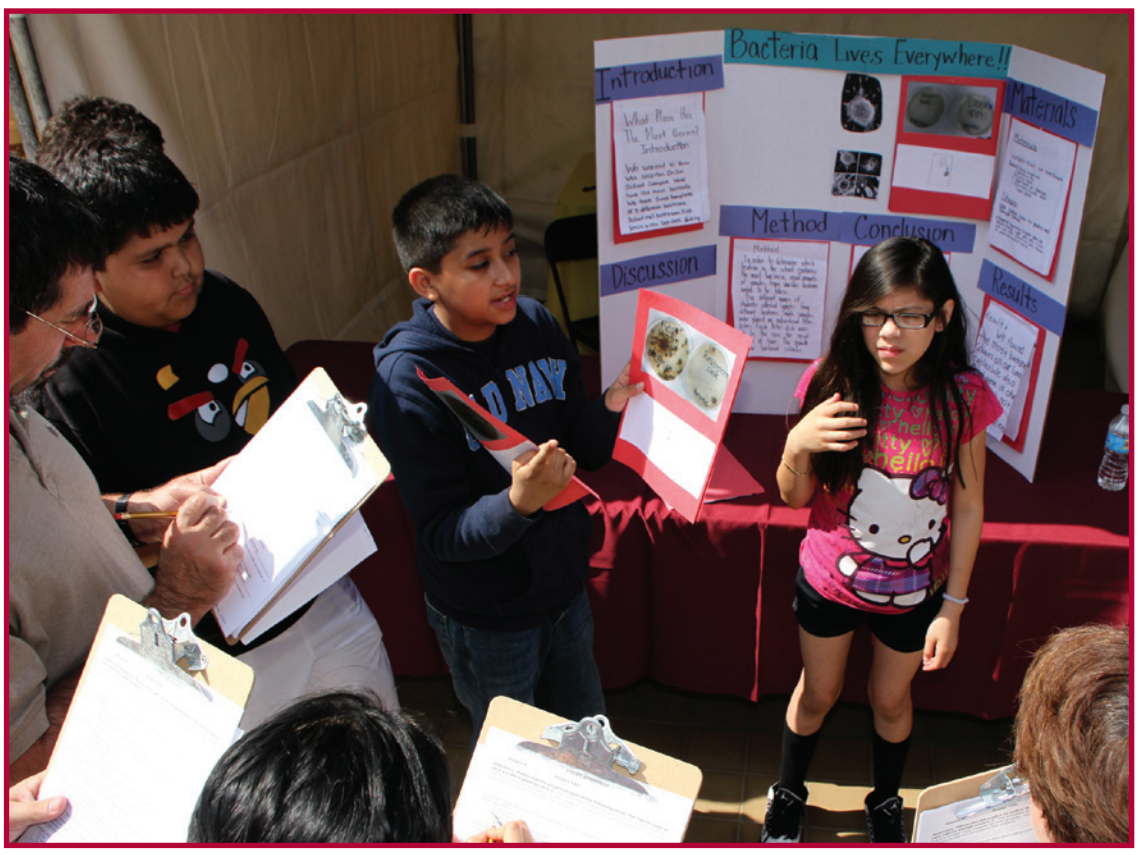
Wednesday, May 16

Noon. ZNI Seminar. "Mitochondrial Dynamics in Mammals," David Chan, CalTech. ZNI 112. Info: (323) 442-2144

Friday, June 15

8:30 a.m.-2 p.m. Southern California Alzheimer's Disease Centers Research Symposium 2012. "Vascular Cognitive Impairment and Dementia," various speakers. UPC: GER Auditorium. Info: (323) 930-6280

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 email 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.



Jon Nalick

APPLYING THE SCIENTIFIC METHOD—*Students from Murchison Elementary School present their germ experiment findings as part of the annual USC-HSC Science Fair, held April 19 on Harry and Celesta Pappas Quad. Hundreds of students from schools surrounding the Health Sciences campus participated in the event.*

Farnham honored for outstanding biochemical research

By Sara Reeve

Peggy Farnham, the William M. Keck Chair in Biochemistry at the Keck School of Medicine of USC, was recently honored by the American Society for Biochemistry and Molecular Biology at the society's annual meeting, held April 21-25 in San Diego, Calif.

Farnham was the recipient of the society's 2012 Herbert A. Sober Lectureship, which is issued every other year and recognizes outstanding biochemical and molecular biological research with particular emphasis on the development of methods and techniques to aid in research.

"I was incredibly excited to be chosen for the Sober Lectureship and feel honored to be included with such a distinguished list of previous recipients," said Farnham. "Throughout my career, I have greatly enjoyed working with students and postdocs to gain insight into fascinating biological processes, such as transcription and epigenetic regulation. My approach has been to focus the research in my lab on the development and refinement of protocols, assays and techniques that can bring us one step closer to understanding the regulation of the human genome."

Farnham, who is an international leader in the study of chromatin regulation, has made numerous outstanding contributions to the related fields of transcriptional regulation, genomics and epigenomics, and cancer biology. Her early work linked the E2F family of transcription factors to control of the mammalian cell cycle. More recently, she has developed high-throughput genomic assays to study E2Fs and other human transcription factors. Currently, she plays an important role in an international consortium of genomic scientists working on the ENCODE Project, which is sponsored and funded by the National Human Genome Research Institute.

In his introduction of Farnham at the meeting, Michael Stallcup, chair of the Department of Biochemistry and Molecular Biology at the Keck School, noted that she was a "pioneer" for her work to develop the chromatin immunoprecipitation (ChIP) technique that allows for genome-wide identification of transcription factor binding sites in mammalian cells. "These methods are now used by investigators worldwide to understand how, when and where transcription factors bind to regulatory DNA sequences, and how interactions regulate the activity of genes," Stallcup said.

In Farnham's lecture, "Using Genomic Technologies to Investigate Transcriptional Regulation in Normal and Cancer Cells," she discussed recent research that uncovers the mechanisms by which the TCF7L2 transcription factor co-localizes with critical cell type-specific master regulators.

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