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.

USC Urology showcases robotic techniques in China

By Cheryl Bruninski

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 this 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, Hai Wen Xue, Alvin Goh, Andre Abreu, Adrian Fairey, Leo Chu and Karan Gill.

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 provide that 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 Keck School Dean Carmen A. Puliafito. These programs are among the many that USC offers to high school 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 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 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 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.
USC research suggests way to reverse effects of Alzheimer’s disease

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 Pharmacology 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.’

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

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 STEM innovators 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 John D. Gunter, a Los Angeles-area physician and chair of the center’s advisory board.

“There is a lot of interest from the public, how to develop a professional career in the future so students across the region can participate. 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 as students across the region can participate.

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

The research, considered the largest global gene study of breast cancer tissue, was funded by the Peter and Jane Flight 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 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.

Curtis was also co-author on the paper with Corin Tavares, professor of mathematics, biological sciences and pathology and director of the USC Norris Bioinformatics Center.

Curtis is Simon Tavaré, professor of mathematics, a faculty fellow at the University of Oxford, and the Marquèt 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 biokinetics and physical therapy at the Ostrow School of Dentistry and a faculty fellow at the University of Southern California.

Leah Saxon, professor of clinical medicine and executive director of the USC Center for Body Computing, recently spoke at her 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 co-director of the USC Neuromuscular Center, and Valerie Askonas, professor of neurology and pathology and co-director of the center, and have co-authored a text, Movil Aging, Inclusion-Body Myositis, and Myotubular, which was recently published by Wiley Blackwell.

The 262-page book explores the clinical and pathological expression of muscle weakness in aging persons.

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 Jacques Van Dam, Kiran K. Dhami, Remy Genyk, Melissa J. Labonte, Heinz-Josef Lenz, Lea Matsuo, David Perez, 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 biokinetics and physical therapy at the Ostrow School of Dentistry and a faculty fellow at the University of Southern California.

Leah Saxon, professor of clinical medicine and executive director of the USC Center for Body Computing, recently spoke at her 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 co-director of the USC Neuromuscular Center, and Valerie Askonas, professor of neurology and pathology and co-director of the center, and have co-authored a text, Movil Aging, Inclusion-Body Myositis, and Myotubular, 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/hssc/health_calendar.

Sunday, Apr. 29
3 p.m.—5 p.m., KISOM Orange County Reception: Duan Pulsalfito, USC Keck School of Medicine, will host the USC Trojan Family and introduces the newly appointed director of the USC Norris Comprehensive Cancer Center, Stephen Gruber. Ballboa Bay Club, 1221 West Coast Highway, Newport Beach, CA 92663. To RSVP: keck.usc.edu/ballboaBayclub. Info: (323) 442-1767.

Monday, Apr. 30

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

Tuesday, May 1

Wednesday, May 2
1 p.m.—5 p.m., KISOM Medical Student Research Forum & Poster Day 2012: Oral Presentations, 1-3 p.m. KAM Meyer Auditorium. Poster Presentations, 3-5 p.m. Pappas Quad. Info: (323) 442-2374.

Friday, May 4

Wednesday, May 9
9 a.m.—4 p.m., USC JfitPfitBrain 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

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 GRR Auditorium. Info: (323) 930-6290.

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 published. Send calendar items to The Weekly, KAM 400 or fax to (323) 442-8132, 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.

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 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.

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.