Author discusses advances and challenges — in cancer treatment

By Hope Hamashige

Cancer has stumped physicians and scientists for thousands of years. Major discoveries have changed our understanding of cancer and how to treat it, but there is still far more to learn.

“Cancer remains the most significant challenge in the history of medicine,” said Siddhartha Mukherjee, MD, PhD, assistant professor of medicine at Columbia University.

Mukherjee, the author of a Pulitzer Prize winning best-selling book titled, “The Emperor of All Maladies: A Biography of Cancer,” recently spoke before a standing-room-only crowd at Mayer Auditorium as part of the Nancy Short Lecture series, which honors the life of Nancy Short, who died of ovarian cancer in 2010.

Nancy Short’s husband, actor and comedian Martin Short, kicked off the lecture by stating that his wife’s passing led him to become an advocate for cancer research and education.

“The knowledge that can be obtained through lectures like this is enormous,” said Short.

“To illustrate how far our understanding has come, Mukherjee pointed to the first recorded case of cancer, written in papyrus, which said there was no way to help patients. He cited advances in treatment in recent years:

• Chemotherapy has changed the prognosis for some patients, most notably for children with leukemia, though not all of them.

• New research, has led to greater understanding of cancer’s cellular workings, and new targeted.

• Ongoing experiments with immunotherapy are the “most exciting advance in treatment” in years, according to Mukherjee.

He compared our understanding of cancer to an iceberg, saying that despite all the progress, most of its physiology is still hidden from view. In order to find new and better treatments, scientists must continue to push for more research on the disease.

“Our understanding of cancer physiology is still incomplete,” said Mukherjee. “There is still much more to learn about what signals the growth of cancer and how to shut it off.”
Lecture on global health care stresses personalized medicine

By Sharon Brock

The National Institutes of Health (NIH) recently awarded $4.5 million to a team of researchers led by Latina V. Rodriguez, MD, professor of urology and obstetrics and gynecology at the Keck School of Medicine of USC. The grant will fund study of the causes, risk factors and potential treatments for interstitial cystitis, also known as painful bladder syndrome, and other urologic chronic pelvic pain disorders. Rodriguez is co-investigator with Emeran Mayer, MD, UCLA professor of gastenterology. They will work with basic science and neurobiologists at USC and UCLA in collaboration with the Laboratory of Neuroimaging at USC and all other NIH-funded sites that comprise the Multidisciplinary Approach to the Study of Chronic Pelvic Pain (MAPP) network. The MAPP research network represents a multimillion research effort by the National Institute of Diabetes and Digestive and Kidney Diseases and the NIH to better understand the underlying causes of the most common chronic urological pain syndromes (UCPPS).

Little is known about the causes of UCPPS and, therefore, there is no reliable effective treatment. But the MAPP study represents a major shift in research strategy. Unlike previous organ-specific research, the MAPP initiative requires investigators to conduct collaborative studies of UCPPS from a broadened systemic perspective. The MAPP network includes researchers with clinical, epidemiological, and basic science expertise. They study the epidemiology of disease, phenotyping of urological and non-urological symptoms, neuromaging and neurobiology studies, identification of biomarkers and characterization of pain pathways. The shift in focus is supported by recent epidemiological studies showing that chronic pelvic pain disorders are frequently associated with other chronic pain disorders such as fibromyalgia and chronic fatigue syndrome, which suggests the possibility of common underlying disease processes in these chronic disorders.

“As we hope that by combining forces with other centers and taking this broad, multidisciplinary approach, we will make progress that will ultimately lead to strategies that will enable us to intervene, both to improve treatment and to prevent the condition from becoming chronic,” said Rodriguez.

Eye Institute opens state-of-the-art community facility in Arcadia

By Alison Trinidad

The USCB Eye Institute, one of the nation’s Top 10 ophthalmology departments according to U.S. News & World Report, celebrated the opening of its new clinic in Arcadia.

The state-of-the-art clinic is located three miles to the north of its previous location and expands services in a 3,161-square-foot space. The ophthalmology clinic has served the San Gabriel Valley community for 20 years and is one of six locations in Southern California where USCB Eye Institute practices.

The Dec. 1 grand opening welcomed 150 people. It was hosted by USC Health Senior Vice President and CEO Tom Jackiewicz, Keck School of Medicine of USC Dean Carmen Puliafito, MD, MBA, and USC Eye Institute Director Rohit Varma, MD, MPH. Arcadia Mayor John Wuo and Chamber of Commerce CEO Scott Hettrick also attended.

Keck Medicine of USC is dedicated to bringing our exceptional medical care to the local communities of greater Los Angeles by expanding our clinic locations.

We want to be closer to where our patients live. Two miles is not a far move, but this new location is closer to the soon-to-be-built Metro station, making it more convenient for the local community to receive great patient care,” Jackiewicz said.

Varma, who also is professor and chair of the Department of Ophthalmology at the Keck School of Medicine of USC, is a glaucoma specialist and has dedicated his career to studying the development of eye diseases in minority populations. He is the principal investigator for multiple National Institutes of Health-funded clinical studies, including the Chinese American Eye Study.

“We specialize in understanding and treating both the common and the most complex and challenging eye diseases that other eye centers may not be able to manage,” said Varma. “Asian-Americans should pay special consideration to eye conditions such as myopia, narrow-angle glaucoma, cataracts, dry eye, diabetic retinopathy, and age-related macular degeneration. We want our community in Arcadia and the surrounding cities to know that we have the expertise in the early diagnosis and treatment of these conditions before they can become blinding.”

Other ophthalmologists who will see patients at the Arcadia clinic include Linda Lam, MD (retinal diseases); Bibhanna Reiser, MD (corneal disease, cataract and refractive surgery); Jonathan Song, MD (corneal disease, cataract and refractive surgery) and Sandy Zhang-Nunes, MD (ocular-facial plastic surgery).

HSC News

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Editor: Les Dunseith
Contributors: Hope Hamashige, Cristy Lyle, Leslie Ridgeway, Sharon Brock, Linda Xu and Alison Trinidad

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Executive Director, Creative Services: Tom Delianto
Associate Vice President, Health Sciences Public Relations and Marketing: Deborah S. Fullerton

Phone: (323) 442-8280 Fax: (323) 442-8292
Email: hscnews@usc.edu Web: hscnews.usc.edu

In December, the 2015 Tournament of Roses queen and court brought holiday cheer to USC Norris staff and patients such as Jesus Acosta.
Institute of Urology hosts major scientific meetings

By Tom DeSanto

In an impressive display of its expanding leadership in urology, the USC Institute of Urology hosted three major scientific meetings in four months.

USC welcomed the 92nd meeting of the Clinical Society of Genito-Urinary Surgeons (CSGUS) in the Arcadia Conference Center on the USC Health Sciences Campus from Nov. 20-22. CSGUS is one of the most prestigious societies in the field of urology, with active membership limited to 25 of the top academic urologists in the United States.

The annual meeting began at the star-studded "Changing Lives, Creating Cures" gala, continued with a full day of intensive sessions on all aspects of urological surgery and concluded with a literary dissertation featuring Sudhartha Mukherjee, MD, PhD, author of "The Emperor of All Maladies: A Biography of Cancer," which won the 2011 Pulitzer Prize.

On Oct. 23, international thought leaders in urology gathered at USC for the American Urological Association (AUA) Consensus Conference on the Small Renal Mass. The AUA-accredited course included presentations by more than 30 key opinion leaders and hands-on labs hosted simultaneously in two other cities. AUA was founded in 1902 and has 20,000 members worldwide.

USC also hosted the 7th International Symposium on Focal Therapy and Imaging in Prostate & Kidney Cancer on Aug. 21-23. The educational event covered the latest developments in focal therapy, an emerging minimally invasive cancer treatment. Established in 2008, the symposium is held annually, rotating between the United States and Amsterdam.

By hosting these important scientific meetings, we share expertise among our colleagues to advance the field of urology," said Inderbir S. Gill, MD, MCh, chairperson and professor of the Catherine and Joseph Areyx Department of Urology and founding executive director, USC Institute of Urology. "Through innovation, we improve life for our patients here in Los Angeles and for others around the world."
Calendar of Events

December 12 - 2014

Friday, Dec. 12

11 a.m. Microbiology Seminar: “Conflicting Roles of Molecules in Liver Cancer: Paradigm or Paradox,” Gen-Sheng Feng, University of California, San Diego. NRT LG 503/504. Info: Ashlinn Calimlim, (213) 442-3718, calimlim@usc.edu

11 a.m. Jane Anne Nold Division of Hematology and Center for the Study of Blood Diseases Grand Rounds, “Coordination of Mouse Hematopoietic Stem Cells In Vivo,” Rong Lu, PhD, USC Keck School of Medicine. LG-UCSC Medical Center Inpatient Tower, Conference Room D. Info: Carolyn Castanellon, (323) 865-3913, Carolyn.castanellon@med.usc.edu

Noon. Tobacco Center of Regulatory Science (TCORS) Talk, “Tobacco Control in Indian Country: Intersections of Culture, Science, Policy,” Patricia Neev Henderson, Black Hills Center for American Indian Health. SS0301. Info: Lilit Maldayan, (213) 442-2223, aladaday@med.usc.edu


Noon. The Saban Research Institute Seminar. “Research Seminar, Rad Diet, Bad Water, Bad Stem Cells: Understanding and Reversing Environmental Enteropathy,” Sean R. Moore, MD, MS, Cincinnati Children’s Hospital Medical Center. Sahm Research Building, First Floor Auditorium, CHLA, 4641 Sunset Blvd. Info: Harlene Gill, (323) 361-8626, hgilgill@usc.edu

Thursday, Dec. 18

9 a.m.-3 p.m. HTF-USC Workshop, “HTE@USC: Orthopaedics and Engineering Technologies: A Theme-Focused Technology Collaborative Workshop,” CRP 224. Info: and RSVP: Nudine Mafi, nafani@usc.edu, http://hte.usc.edu

6 p.m. Orthopaedic Surgery Grand Rounds, “Alignment In TKA: Does Accuracy Count If We Don’t Know The Target,” Henry D. Clarke, Mayo Clinic College of Medicine. Aresty Auditorium. Info: and RSVP: Sylvia Suarez, (323) 226-7204, sylvia.suarez@med.usc.edu

Friday, Dec. 19

8 a.m. Pulmonary, Critical Care and Sleep Medicine Seminar. “Future of Sleep Apnea Therapy,” Atul Malhotra, UCSD. 2020 Zonal Ave., IRB 734. Info: Elva Robins, (323) 226-7923, elvarubi@usc.edu

Wednesday, Dec. 24

8:30 a.m. Pulmonary, Critical Care and Sleep Medicine Lecture. “Pain, Agitation and Delirium,” Samih Iyer-Kumar, USC. 2020 Zonal Ave., IRB 734. Info: Elva Robins, (323) 226-7923, elvarubi@usc.edu

Tuesday, Jan. 27

Noon. Dept. of Medical Education Seminar. “Faculty Development Seminar — Recognizing and Referring Learners in Difficulty,” Donna Elliott, USC. Norris Medical Library East Conference Room. Info and RSVP: Cris Argosino, (323) 442-2746, elvarubi@usc.edu

Wednesday, Jan. 28

Noon. Dept. of Medical Education Seminar. “Faculty Development Seminar — Motivating Learners,” Jolie Ngyuen and Stephanie Zia, USC. Norris Medical Library East Conference Room. Info and RSVP: Cris Argosino, (323) 442-2746, elvarubi@usc.edu

Thursday, Jan. 29

Noon. Dept. of Medical Education Seminar. “Faculty Development Seminar — The Myth of Multitasking,” Dixie Fisher and Win May, USC. Norris Medical Library East Conference Room. Info and RSVP: Cris Argosino, (323) 442-2746, elvarubi@usc.edu

Notice: Calendar submissions must be received at least 10 days before an issue’s publication date to be considered. Please note that timely submission does not guarantee an item will be printed. Entries must include day, date, time, title of talk, first and last name of speaker, affiliation of speaker, location and a phone number or email address for information.

Submit calendar items at tinyurl.com/calendar-hsc.

Stem cell researcher receives Broad Fellowship

By Crysti Lytal

What makes stem cells develop into kidney cells? Lori O’Brien, PhD, a postdoctoral research associate in the laboratory of Andy McMahon, PhD, FRS, has received the first Broad Fellowship to help answer this question.

O’Brien is the first of a series of Broad Fellows, exceptional senior postdoctoral researchers at the transition point to starting their own stem cell laboratories. The fellowship was funded in part by a $2 million gift from: The Eli and Edythe Broad Foundation to the Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC. The gift also supports core research facilities and innovative projects.

“One component of this money is to provide senior postdoctoral fellows with a year’s worth of funding and their own lab support,” said McMahon, director of USC’s stem cell research center.

“This enables our most promising young scientists to become the next generation of innovators in regenerative medicine.”

The unanimous choice of the external review committee, O’Brien’s project explores how key genes are “turned on” or “turned off” through a process called epigenetic regulation. “Turning off specific genes in kidney stem cells prompts them to self-renew, or divide and give rise to more stem cells. These stem cells self-renew until they receive the signals to undergo specialization or differentiation into nephron cells, which form the functional unit of the kidneys,” said McMahon.

O’Brien is focusing on an epigenetic regulator called Phf19, which encourages embryonic stem cells to self-renew, and may have a similar effect on kidney stem cells. She earned a bachelor’s degree in bacteriology and a PhD in biochemistry from the University of Wisconsin-Madison. As a postdoctoral researcher, she has studied kidney development at Massachusetts General Hospital, Harvard University and USC.

“I’m honored to have been chosen, and thank The Eli and Edythe Broad Foundation for their generous contribution to establish the award,” said O’Brien. “This fellowship will help establish my career as an independent scientist dedicated to understanding kidney stem cells, so that we can utilize this knowledge to develop regenerative therapies for patients.”

New stem cell course brings together science and fiction

By Linda Xu

USC is offering a new two-unit class in spring 2015, MEDS 380 Stem Cells: Fact and Fiction, which will explore contemporary topics in stem cell biology and innovative future applications that can close the gap between scientific reality and science fiction predictions.

The class will be an elective for a minor in health care studies, but it is open to all majors who have taken or have credit for a general biology course. MEDS 380 will incorporate aspects of the liberal arts with hard science, including cell biology and organic chemistry.

“This is almost a course that students couldn’t even fathom because science students are so used to the regular chemistry, biology, organic chemistry and all the typical pre-health classes,” said Erin Yamashita, program specialist for the health care studies minor.

Yamashita welcomed the involvement of Gage Crump, PhD. “We had a professor who has significant background in stem cells and who also wanted to incorporate his interest in science fiction to really develop students’ understanding of how science and the creations of science — research and discovery — relate to a larger context, to literature and social issues,” she said.

A USC Stem Cell Researcher, Crump looks forward to the interdisciplinary effects of the course.

“There’s been a real initiative to try to have collaborative efforts with people in other schools throughout USC, particularly the arts department, because these ideas of stem cells, genetic engineering and regeneration capture the public’s attention,” he said.

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Stem cell researcher receives Broad Fellowship

Lori O’Brien is researching self-renewal of embryonic stem cells.