$900,000 grant to aid identification of ovarian cancer genetics

By Amy E. Hamaker

According to estimates from the American Cancer Society, approximately 22,240 new cases of ovarian cancer will be diagnosed in the United States in 2013, and 15,500 women will die from the disease. Genetic factors can increase a woman’s chance of getting ovarian cancer and how well she responds to treatment, but exactly how they do it is not well known.

Thanks to a new grant from Ovarian Cancer Research Fund (OCRF) to the USC Norris Comprehensive Cancer Center, researchers may soon have clues to understanding exactly how these genetic factors work.

The three-year grant of $900,000 will assist Simon Gayther, professor of preventive medicine at the Keck School of Medicine of USC, and his co-investigators to further their study, “Functional analysis of genetic susceptibility loci to identify biomarkers and candidate genes associated with ovarian cancer initiation, progression and outcome.” Working as part of a large international team, Gayther and co-investigators Ellen Goode of the Mayo Clinic and Alvaro Monetiro of the H. Lee Moffitt Cancer Center have helped identify and characterize multiple genetic factors that can lead to an increased risk of developing ovarian cancer.

“This grant will help us tremendously to further our research into learning more about making treatments for ovarian cancer more effective.”

Jeff Boyd, OCRF’s Scientific Advisory Committee chair and board member, and senior vice president, molecular medicine, at Fox Chase Cancer Center, Philadelphia, said, “These scientists are at the top of their game at the USC. Thanks to a new grant from Ovarian Cancer Research Fund (OCRF) to the USC Norris Comprehensive Cancer Center, researchers may soon have clues to understanding exactly how these genetic factors work.

Ron Ben-Ari has been named associate dean for continuing medical education (CME) at the Keck School of Medicine of USC. Ben-Ari is associate professor of clinical medicine and vice chair for educational affairs in the Department of Medicine. He will work closely with the leadership of the Keck Medical Center in developing educational programs for physician staff members in the areas of risk management and patient safety.

“This is a very dynamic time for the Keck School of Medicine and the academic medical center,” Ben-Ari said. “I am very excited about growing our CME efforts to create state-of-the-art educational events and materials that would prepare us, and beyond our remarkably talented and capable faculty members in the areas of risk management and patient safety.

Ben-Ari succeeds Allan V. Abbott, who retired in 2012 after serving as associate dean for continuing medical education (CME) at the Keck School of Medicine of USC. In a memo to faculty and staff, Keck School Dean Carmen A. Puliafito said that Ben-Ari’s academic record “includes distinguished educational service at multiple levels, including medical student, resident and fellow, and physician education.”

Under Ben-Ari’s direction, the Office of Continuing Medical Education will provide support to faculty members in developing new educational programs and will emphasize the development of online programs and live offerings featuring clinical faculty at the Keck Medical Center. Ben-Ari will work closely with the leadership of the Keck Medical Center in developing educational programs for physician staff members in the areas of risk management and patient safety.

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Tobias C. Aldan, who traveled from Saipan to UCSF for sinus cancer treatment.

By Josh Greenberg

When the Aldan family flew home to the Northern Mariana Islands in mid-March, their suitcases were stuffed with momentos of USC—Trojan sweatshirts, plates, umbrellas and just about anything else they could find covered with cardinal and gold. Their suitcases were stuffed with momentos of USC—Trojan sweatshirts, plates, umbrellas and just about anything else they could find covered with cardinal and gold. Their suitcases were stuffed with momentos of USC—Trojan sweatshirts, plates, umbrellas and just about anything else they could find covered with cardinal and gold.

“I said, ‘Where is that?’” 31-year-old Tobias C. Aldan, who traveled from Saipan to UCSF for sinus cancer treatment.

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Samuels Family gift helps CHLA advance science internships

The Latino & African-American High School Internship Program (LA-HIP) at the Saban Research Institute of Children’s Hospital Los Angeles received a generous endowment from long-time hospital supporters and philanthropists Lori and Theodore R. “Ted” Samuels. In honor of the endowment from the Samuelses, the hospital will rename LA-HIP the Samuels Family Latino & African-American High School Internship Program.

The program provides internships for minority public school students from underserved areas of Los Angeles County.

“I can’t begin to express the joy and gratitude from the Saban Research Institute and the entire internship program for this generous endowment,” said Emil Bogennemann, the program’s founder and director and associate professor of pediatrics at the Keck School of Medicine of USC. “Ted and Lori have been devoted supporters of LA-HIP from its inception in 2005, and this gift makes it possible for our intern program to continue providing opportunities to local minority students for decades to come.”

Ted Samuels, of the hospital’s board of trustees, and Lori Samuels, of the hospital’s board of directors, said that they are proud to be a part of this exceptional program.

“We are thrilled to have the opportunity to support the Saban Research Institute and the LA-HIP program,” said Ted Samuels. “It is an organizations that is making a difference in the lives of our community’s most vulnerable children.”

The Samuelses have a longstanding interest in the program.

They provided seed money in 2005 when Bogennemann, the director of research education at the institute, expressed concern during a Board of Trustees meeting that minorities were underrepresented in the hospital’s high school research internship program.

Three days later, as Bogennemann told them, he received a pledge from Ted Samuels, offering a $60,000 grant. “Dr. R.,” Samuels told him, “Go and do your vision.”

Since it started, 93 students have completed the six-week summer program. These students have gone on to enroll in and graduate from top tier universities, including West Point, Princeton University, Harvard University, Johns Hopkins University and the University of California, Los Angeles, among many others.

“Without the Samuelses, this program would not be possible,” Bogennemann said. “Their generosity has allowed us to provide opportunities to Latinx and African-American high school seniors for decades to come.”

For six weeks each summer, 16 Latino and African-American high school seniors from L.A.’s underserved communities work with scientists from the hospital’s Saban Research Institute. They perform experiments and study diseases affecting the pediatric population, including diabetes, bacterial meningitis, HIV, inflammatory bowel disease, neuroscience and cancer.

The Samuels family internship program also provides SAT prep, college counseling and financial aid assistance for the students. Each year, more than 100 aspiring scientists apply for the 16 positions.

Ted Samuels, who serves as the co-chair on the hospital’s Board of Trustees, said he and his wife have had a longstanding interest in the program. They provided seed money in 2005 when Bogennemann, the director of research education at the institute, expressed concern during a Board of Trustees meeting that minorities were underrepresented in the hospital’s high school research internship program.

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Keck Medical Center of USC offers new treatment for chronic reflux disease

By Allison Trinidad

Clinical trial results published in the New England Journal of Medicine on Feb. 21 offer additional evidence that a new device may help relieve chronic heartburn symptoms that standard treatment cannot. The Keck Medical Center of USC was one of 14 U.S. and European medical centers to test the device prior to its March 2012 approval by the U.S. Food and Drug Administration.

John Lipham, associate professor of surgery at the Keck School of Medicine of USC, led clinical investigation of the device as part of his ongoing work to find alternative ways to treat gastroesophageal reflux disease (GERD), or chronic heartburn.

"These results show that there is another option for the millions of people suffering from chronic reflux," Lipham said. "Currently, the Keck Medical Center of USC is one of only 30 sites in the country certified to implant the device." The LINX Reflux Management System, manufactured by Minnesota-based Torax Medical Inc., is like a bracelet made up of magnetic, titanium beads implanted around the end of the esophagus, where the lower esophageal sphincter is located. The lower esophageal sphincter is the valve that prevents reflux, and GERD develops when this valve is weakened.

Implantation of the device is potentially an outpatient procedure that can be completed in 15 to 20 minutes, Lipham said. Lipham and his colleagues assessed 100 patients with GERD before and after surgery, finding that acid reflux decreased, reflux symptoms improved and the use of medication to manage those symptoms decreased for most patients. Severe regurgitation was eliminated in all patients. More than 90 percent of patients reported satisfaction with their overall condition after having the procedure, compared to 13 percent before treatment while taking medication.

Follow-up studies are still required to assess long-term safety. Lipham says the LINX device is best for patients with mild to moderate reflux that cannot be adequately controlled by medication or for patients who do not want to take medication to manage the disease. More than 60 million Americans experience heartburn at least once a month, and some studies have suggested that more than 15 million experience heartburn symptoms every day, according to the American College of Gastroenterology.

Surgical treatment of reflux disease had been limited to a procedure called a Nissen fundoplication, which involves recreating the esophageal sphincter.

The Weekly NEWSMAKERS

An April 1 article in the Los Angeles Times referred to Wilbert Mason, professor of clinical pediatrics at the Keck School of Medicine, regarding the inadvisability of intentionally exposing children to chicken pox.

A March 28 post in the Herald Online noted that Amane Pandya, associate professor of clinical psychiatry and vice-chair of clinical affairs at the Keck School of Medicine, was slated to discuss gun violence and mental health at a town hall meeting in West Hollywood.

On March 28, the Los Angeles Times reported that Thomas Sayles, USC senior vice president for university relations, is part of a new commission charged with examining Los Angeles’ city finances. The story mentioned the recent signing of the development agreement for the USC Village, and quoted Andrea Vrlicka, professor of clinical preventive medicine at the Keck School of Medicine, about the commission. KPPC-FM also covered the commission’s creation.

A March 27 article in the Beverly Hills Courier noted the Achievement Rewards for College Scientists Foundation’s (ARCS) support of the Keck School of Medicine and the USC Norris Comprehensive Cancer Center.

A March 27 broadcast on CBS News featured a study by Simon Gayther, professor of preventive medicine at the Keck School of Medicine, and his colleagues, identifying 74 new single nucleotide polymorphisms — or genetic spelling mistakes — that are associated with increased occurrence of breast, prostate and ovarian cancer. This work “could lead to the identification of common biomarkers and therapeutic targets for intervention across several disease sites,” Gayther said.

On March 27, the Milwaukee Journal-Sentinel cited an op-ed by Ken Murray, retired clinical assistant professor of family medicine at the Keck School of Medicine, about how doctors view end-of-life care.

A March 26 article in Time Magazine quoted Breck Nichols, assistant professor of clinical pediatrics at the Keck School of Medicine, who co-authored one of a pair of studies on medical interns and the impact of long training hours, published concurrently in JAMA Internal Medicine. “For most programs the significant reduction in work hours has not been accompanied by any increase in funding to off-load the work. As a result, though many programs have made some attempts to account for this lost work in other ways, the end result is that current interns have about 20 less hours each week to complete the same or only slightly less work. If we know that timed tests result in more errors than untimed ones, we should not be surprised that giving interns less time to complete the same amount of work would increase their errors as well,” said Nichols.

USC researchers find way to eradicate drug-resistant leukemia cells

By Elin Kavanagh

Investigators from the Keck School of Medicine of USC and the Institute for Glycomics at Griffith University, Australia, have demonstrated that leukemia cells can be eradicated by removing a modification of a carbohydrate called sialic acid on the cell’s surface.

This study appeared in the Journal of Experimental Medicine and is available online at http://tinyurl.com/awke-tn.

Acute lymphoblastic leukemia (ALL) is a cancer of malignant white blood cells that multiply uncontrollably. It is the most common form of pediatric cancer. Up until 40 years ago, only one child in five survived.

Advances in chemotherapy have changed the outcome, and now nearly 80 percent of children with ALL will be cured. In the other 20 percent, however, the disease returns, necessitating additional rounds of intensive chemotherapy. Unfortunately, most relapsed patients die within one year because their cancer cells are resistant to chemotherapy. In addition, patients who survive are sometimes faced with the long-term consequences of the chemotherapy and radiation they received.

For these reasons, the search for alternative, and possibly less toxic, treatments continues.

In pursuit of this goal, John Lipham, Nora Heisterkamp, Mark von Itzenpol — Keck School investigators at The Saban Research Institute of Children’s Hospital Los Angeles — and their colleagues found that leukemia cells have an altered cell surface that includes modified sialic acid. When the cancer cells become resistant to chemotherapy, this modification of sialic acid increases.

In vitro testing showed that when the modification was removed, the cancer cells died. In vivo models of acute lymphoblastic leukemia expressing an enzyme that removes the modification show increased survival time compared to controls.

“From many studies, we discovered that multiplying uncontrollably, malignant white blood cells, or malignant lymphocytes, express a carbohydrate called sialic acid on the cell’s surface. When this carbohydrate is altered, the cancer cells are resistant,” said Robert Seeger, director of the Cancer Program of The Saban Research Institute. “This is an important discovery that opens the way to a better understanding of leukemia and possibly to new curative treatments.”

“We hope that this ... approach to treating [acute lymphoblastic leukemia] may offer an effective treatment option for children battling drug-resistant disease.”
— John Groffen, research professor of pediatrics and pathology at the Keck School of Medicine at USC
Keck Medical Center of USC opens new cystic fibrosis unit

By Josh Grossberg

Patients with cystic fibrosis now have a new place to stay at the Keck Medical Center of USC. A new 14-bed unit solely dedicated to their care opened on March 11, on the eighth floor of Keck Hospital of USC’s east wing. Before the move, patients with cystic fibrosis shared space on the sixth floor with liver transplant patients. This new unit affords them a centralized location and a staff of highly trained clinicians and support staff specializing in cystic fibrosis care.

“Due to constraint of space, we previously didn’t have any options,” said Yin Chen, nursing director for the unit. “We are happy that we are now able to offer a space dedicated just to them and their care.”

The new unit will not only keep patients with cystic fibrosis in a safer environment, it has other perks as well. Because people with cystic fibrosis have trouble absorbing nutrients, each private room is equipped with a refrigerator so that they will have snacks nearby. Because the average length of stay for a patient with cystic fibrosis is about two weeks, the rooms feature plenty of space for an exhibit featuring lungs.

And there’s a nice view, too. “It feels like a healing environment for them,” said Kathleen Coe, nurse manager, who worked with Chen and Debbie Benitez, nurse coordinator for the Center for Cystic Fibrosis at Keck Hospital of USC, to create the unit. “The unit—which has been designated a Center of Excellence by the Cystic Fibrosis Foundation—comes at a time when the number of patients with cystic fibrosis is growing rapidly. Although cystic fibrosis was once considered a pediatric condition, strides in therapies mean that there are more adults with the genetic disease.

“Ten years ago we had 50 patients,” Benitez said. “Now, it’s closer to 200.”

In the coming weeks, the center will become an even more attractive choice for those with cystic fibrosis—a new gym catering to their needs opens later this month.