

\$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



Courtesy Simon Gayther

Simon Gayther, professor of preventive medicine at the Keck School, recently received a substantial grant from Ovarian Cancer Research Fund to help identify and characterize multiple genetic factors that can lead to an increased risk of developing ovarian cancer.

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 affect a woman's risk of developing ovarian cancer and survival prognosis after diagnosis. The team hopes to understand how these genetic markers function, and to find more markers

that affect risk and survival for ovarian cancer. The overall goal is to reduce mortality from this deadly cancer.

"The aim of my research laboratory is to combine susceptibility genetics in ovarian cancer with molecular profiling studies in ovarian tumor tissue banks and functional modeling of ovarian cancers and normal ovarian tissues to identify clinically relevant markers of the disease," said Gayther. "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

See **OCRF**, page 4

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

—Simon Gayther, professor of preventive medicine at the Keck School of Medicine of USC

Ben-Ari to lead continuing education for Keck School

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 also serves as assistant dean of curriculum in the medical school's division of medical education and is the president of the Keck School Faculty Council.

As associate dean, he will chair a newly constituted CME steering committee for Keck Medicine of USC, incorporating expanded programs for both the medical school and the Keck Medical Center 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.

"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 showcase to the region and beyond our remarkable faculty and the excellence of our clinical programs."

Ben-Ari succeeds Allan V. Abbott, who retired in 2012 after serving as associate dean for continuing medical



Ron Ben-Ari

See **CME**, page 2



Gus Ruelas

Keck Hospital of USC speech therapists Melody Ouyoung (left) and Monica Mu (right) work with patient Tobias C. Aldan, who traveled from Saipan to USC for sinus cancer treatment.

Family travels 6,000 miles for dad's cancer treatment

By Josh Greenberg

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

For the past several months, several family members uprooted their lives and moved to a motel in Los Angeles so they could be near their family patriarch, who was undergoing cancer treatment at the USC Norris Cancer Hospital.

"It's been a long road," said Jocelyn A. Kapielo, who came to California with her husband to look after her ailing father.

Tobias C. Aldan is the mayor of a small

town on the island of Saipan. He has five surviving children and works on the family's 2.5-acre farm.

He has a fairly idyllic life, but last September, the 66-year-old began getting headaches. After several trips to doctors, father and daughter found themselves on nearby Guam for more tests. The news was not good—he had sinus cancer.

Then they received another shock—a doctor scheduled him to be treated at the Keck Medical Center of USC.

"I said, 'Where is that?'" 31-year-old Jocelyn recalled. "He said, 'Los Angeles.' I started to punch the table. 'Are you going to pay my way?'"

See **TREATMENT**, page 2

Samuels Family gift helps CHLA advance science internships

‘These remarkable young students often come in with desires to find cures for diseases that have incapacitated family members. We also hope that one day some will join our hospital’s medical and science faculty.’

—Brent Polk, chair of the hospital’s and the Keck School’s Department of Pediatrics and director of the Saban Research Institute

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 longtime hospital supporters and philanthropists Lori and Theodore R. “Ted” Samuels. In honor of the endowment from the Samuels, the hospital will rename LA-HIP the Samuels Family Latino & African-American High School Internship Program.

The program provides internships for minority public high 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 Bogenmann, 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.”

Brent Polk, chair of the hospital’s and the Keck School’s Department of Pediatrics and director of the Saban Research Institute, said the Samuels endowment not only nurtures student interest in science and medicine, but also fosters perseverance and confidence—characteristics that enable students to



In recognition of a generous endowment gift from Lori and Ted Samuels, Children’s Hospital Los Angeles will rename LA-HIP the Samuels Family Latino & African-American High School Internship Program.

begin the pursuit of career opportunities in these competitive fields.

“This internship program is a win for everyone in society because it expands the leadership pool for science, technology, engineering and mathematics—the STEM programs—and the community,” he said. “These remarkable young students often come in with desires to find cures for diseases that have incapacitated family members. We also hope that one day some will join our hospital’s medical and science faculty. The Samuels family’s gift ensures that their hopes can become a reality.”

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 application 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, and his wife, Lori, have had a longstanding interest in the program. They provided seed money in 2005 when Bogenmann, 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 programs. Three days later, as Bogenmann tells it, he received a pledge from Ted Samuels, offering a \$60,000 grant. “Dr. B,” 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.

TREATMENT: 6,000 miles from home, family joins father in fight against his cancer

Continued from Page 1

But with Aldan’s insurance paying for his treatment, his family figured out a way to make it work. In November, Aldan and three family members landed at Los Angeles International Airport for what turned out to be a lengthy stay.

USC Norris Cancer Hospital specialists removed an orange-sized tumor located along the skull

base beneath Aldan’s brain. Then came the months of chemotherapy and radiation therapy.

Helping him along were an interdisciplinary team of doctors, including Gabriel Zada, Bozena Wrobel, Stephen Liu, Eric Chang, Carmen A. Puliafito, Peter Crookes, May Kim-Tenser, Benjamin Emanuel and Uttam Sinha. Nurse practitioner Lydia Wilson and speech thera-

pists Melody Ouyoung and Monica Mu were also an integral part of the team.

After a weeklong stay in the hospital, Aldan was released. He could have gone home, but the family decided to stay at the motel and commute back to the Keck Medical Center every day for treatment.

“I was thinking that it’s better to do it here,” Jocelyn said. “We never knew it

would be this long.”

This has been no vacation. Aside from one visit to the beach, the family was at the hospital every single day from November through mid-March. It is a commitment that impressed Aldan’s doctors.

“I don’t think he could have done it alone,” said Zada, assistant professor of neurological surgery at the Keck School of Medicine of USC.

With Aldan’s recovery under way, the clan returned

home. Aldan will receive follow-up treatment in Guam. Liu said doctors here will receive copies of Aldan’s brain scans.

“He’s finished treatment,” said Liu, assistant professor of clinical medicine. “His spirits are up. His family has been tremendous.”

Aldan is a man of few words. But he smiled broadly when he thought about the journey he and his family have successfully ventured on: “Now it’s good,” he said. “Everything is good.”

The Weekly

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CME: Ben-Ari tapped to lead program

Continued from Page 1

education since 2001. Ben-Ari joined the Keck School faculty in 1992. He was chief of staff at Los Angeles County+USC Medical Center from 2005 to 2006 and has served the Department of Medicine as director of the Internal Medicine Residency and Medical Student Programs.

As an educator, Ben-Ari has received numerous awards. He was elected into the Alpha Omega Alpha Honor Society in 1990 by USC medical students and was awarded Outstanding Teaching

Awards in 1997, 1998, 2003 and 2007. He was named a Master Teacher of the Keck School in 2008 and was the faculty honoree for Medical Education and Humanism from the American College of Physicians Southern California Region I in 2009.

Ben Ari received his bachelor’s degree with honors from the University of California, Berkeley, in 1983 and his medical degree from the Keck School in 1987. He completed his internship and residency in the USC Internal Medicine Residency Training Program.

USC researchers find way to eradicate drug-resistant leukemia cells

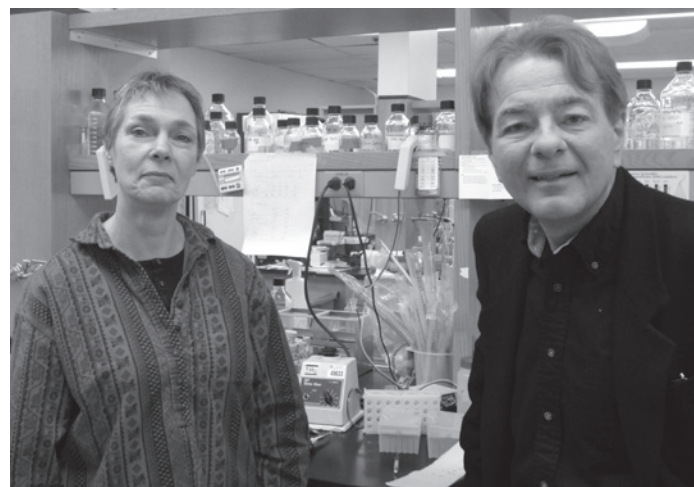
By **Ellin Kavanagh**

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/awke4xn>.

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 that 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



Nora Heisterkamp and John Groffen of the Molecular Carcinogenesis Lab at The Saban Research Institute.

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 Groffen, Nora Heisterkamp, Mark von Itzstein—Keck School investigators at The Saban Research Institute of Children's Hospital Los Angeles—and their colleagues found that

leukemic 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 showed increased survival time compared to controls.

"In the future, we hope that this novel, structural approach to treating ALL may offer an effective treatment option for children battling drug-resistant disease," Groffen said.

Heisterkamp added, "By exploiting this 'Achilles heel' in ALL cells, we are now working toward developing a new type of drug therapy based on sialic acid modification."

This discovery was the culmination of an international collaboration that began when Groffen spent a sabbatical in Australia.

"It was a wonderful opportunity to combine the U.S. team's internationally acclaimed expertise in leukemia with our own expertise in carbohydrate science," said von Itzstein, director of the Institute for Glycomics, Griffith University.

Robert Seeger, director of the Cancer Program of The Saban Research Institute, said, "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 offers new treatment for chronic reflux disease

By **Alison 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 at USC 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 **Anand 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 Hricko**, professor of clinical preventive medicine at the Keck School of

Medicine, about the commission. KPCC-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 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.

Calendar of Events

Saturday, Apr. 6

8 a.m. – 1 p.m. 6th Annual Fight for Air Climb. The Keck Medical Center of USC is a proud sponsor of this event to raise awareness for the 37 million Americans who suffer from lung disease. Aon Center, Los Angeles. Register online at <http://www.lung.org/pledge-events/ca/los-angeles-climb-fy13/>.

Monday, Apr. 8

Noon. Research Seminar. “Modularity in Development and Evolution of the Human Skeleton,” Charles Kimmel, Univ. of Oregon. NRT Aresty Auditorium. Info: (323) 442-7732

Tuesday, Apr. 9

Noon. Psychiatry Grand Rounds. “Human Factors in Surgery and Team Handoffs,” Ken Cathpole, Cedars Sinai. ZNI 112. Info: (323) 442-4065

2 p.m. Breast Cancer Educational Forum. “Meaningful Interactions: How to Work with Your Surgeon,” Katherine Kopkash and Debu Tripathy, USC. NRT G-501. RSVP: (323) 865-3520

4 p.m. Women’s Cancers Program Research Seminar. “Can an Antifungal Agent be the Next Potential Therapeutic Drug for Endometrial Cancer Patients?” Paulette Mhawech-Fauceglia, USC. NOR 7409. Info: (323) 865-3520

Wednesday, Apr. 10

8:30 a.m. Medicine Grand Rounds. “Management of Liver Patients in the ICU,” S. Khemichian, USC. IRD 732-734. Info: (323) 226-7923

Noon. ZNI Seminar. “Control of Neuronal Morphogenesis and Circuit Formation in the Drosophila Somatosensory System,” Wesley Grueber, Columbia. ZNI 112. Info: (323) 442-2144

Thursday, Apr. 11

Noon. Cellular Homeostasis Lecture Series. “Microbiome and Intestinal Innate Immune Response in Alcoholic Liver Disease,” Bernd Schnabl, UC San Diego. MCH 156. Info: (323) 442-3121

4 p.m. Diabetes & Obesity Research Institute Seminar. “Dopamine Receptor 1 Neurons in the Dorsal Striatum Mediate the Circadian Timing of Food Anticipatory Activity in Mice,” Andrew Steele, CalTech. CSC 2211. Info: (323) 442-2500

Friday, Apr. 12

7:45 a.m. – 3 p.m. USC Department of OB/GYN 27th Annual Scientific Forum. “Assisted Reproduction and the Biological Clock,” Richard Paulson, USC. NRT Aresty Auditorium. Info: (323) 226-3423

Saturday, Apr. 13

8 a.m. – 4 p.m. CME 2013. “Update on Deep Brain Stimulation,” Various speakers. KAM Mayer Auditorium. Info: (323) 442-2555

Monday, Apr. 15

11:30 a.m. – 1 p.m. Research Seminar. “Certain Spermatogonial Stem Cell Mutations can Disproportionately Increase the Frequency of Human Genetic Diseases,” Norman Arnheim, USC. NRT Aresty Auditorium. Info: (323) 442-7732

Tuesday, Apr. 16

Noon. Psychiatry Grand Rounds. “Psychiatry Maintenance of Certification: Unraveling the Mystery,” Jonathan Meyer, UC San Diego. ZNI 112. Info: (323) 442-4065

Wednesday, Apr. 17

8:30 a.m. Medicine Grand Rounds. “Approach to End of Life Core Issues in the ICU,” P. Close, USC. IRD 732-734. Info: (323) 226-7923

10 a.m. – noon. USC/UCLA/CalTech Nanotechnology – Nanomedicine Group Mini-symposium. Various speakers. PSC 104. Info: (323) 442-8288

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.

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 Tchen, 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 personal belongings.

And there’s a nice view, too.

“It feels like a healing environment for them,” said Kathleen Coe, nurse manager, who worked with Tchen 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 condition.

“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.



HEALTH AND THE ARTS—The organization A Window Between Worlds partnered with the Institute for Genetic Medicine Art Gallery in mounting an exhibit featuring hands as part of the “I Can We Can” project, which encourages artists to literally lend a hand to raise awareness and help end domestic violence.

Left, USC student intern Joanna Lee, explains the pictures of hands behind her during a Feb. 23 program at the IGM Art Gallery on the USC Health Sciences campus.

A member of the Global Alliance for Arts in Health, A Window Between Worlds (AWBW) is a nonprofit organization dedicated to using art to help end domestic violence. Since 1991, AWWB has provided creative expression as a healing tool for more than 112,000 battered women and their children in crisis shelters, transitional homes and outreach centers throughout the United States.

“They partnered with us in making the art installation, as we work together to generate a bright future for children, youth and their families,” said Lynn Crandall, director of the USC IGM Art Gallery, which is a part of the Keck School of Medicine of USC.

OCRF: Gift to fund key ovarian cancer research

Continued from Page 1

national level. We’re proud to support their important work to further our mission of funding scientific research that leads to more effective identification, treatment and ultimately a cure for ovarian cancer.”

OCRF is the largest charity organization in the United States dedicated exclusively to funding ovarian cancer research. The fund has awarded nearly \$6 million in scientific research grants for ovarian cancer this year, and has invested more than \$50 million in ovarian cancer research overall.

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