

USC continues leading the charge in the 40-year ‘war on cancer’

By Leslie Ridgeway

On Dec. 23, 1971, the National Cancer Act was signed into law, strengthening the National Cancer Institute (NCI) and signaling the start of what has come to be known

as the “war on cancer.”

The USC Norris Comprehensive Cancer Center, among the more than 40 comprehensive cancer centers built throughout the United States as a result of

the act, has logged many victories in that war. The center, named as one of the first eight comprehensive cancer centers, was formally dedicated in February 1983, and since then has been the

home of many discoveries that have saved hundreds of lives.

“The fact that we’re still in this war after 40 years indicates how difficult the battle is,” said Stephen Gruber, director of the USC Norris Comprehensive Cancer Center. “But by looking at what has been accomplished by our faculty alone, and talking to the patients who have been personally affected by their discoveries, you see why no one is giving up. Looking back on the successes encourages us to renew our commitment to ‘Fight On.’”

Following are examples of the many fronts on which the battle has been waged by Keck School of Medicine of USC faculty.

- An important therapy benefiting leukemia patients was discovered in 1980 by former USC Norris director Peter Jones, distinguished professor of urology and of biochemistry and molecular biology. Jones and his team demonstrated that the drug azacitidine caused profound changes in gene expression and inhibited DNA methylation (chemicals that can lock and silence genes). The discovery was an early indicator of how epigenetic packaging works.

- The discovery in 1988 of the links between steroid hormones and prostate, breast and ovarian cancer had a major impact on the way these

‘The fact that we’re still in this war [on cancer] after 40 years indicates how difficult the battle is.’

—Stephen Gruber, director of the USC Norris Comprehensive Cancer Center



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After symbolically shedding his coat and tie at a party in his honor, Peter Jones thanks family members and colleagues for their support during his 17-year tenure as director of the USC Norris Comprehensive Cancer Center.

USC honors Peter Jones’ cancer center leadership

By Amy E. Hamaker

The mood in the Hinderstein Garden at the USC Norris Comprehensive Cancer Center was celebratory in tribute to Peter Jones as he stepped down from his position as director of the cancer center.

About 150 guests gathered on Nov. 30—Jones’ last day as director—to honor his 17-year tenure in the shadow of the building where he has had the most impact.

Keck School of Medicine of USC Dean

Carmen A. Puliafito served as host for the evening, introducing speakers and welcoming guests. “I’ve enjoyed working with Peter for the four years I’ve been dean,” he said, “and no one has had a greater degree of institutional commitment and generosity of spirit when it comes to USC and our academic community than Peter Jones.”

Each speaker related a funny story or com-

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Evaluation and Treatment Clinic sees success, growth in its second year

By Amy E. Hamaker

Visitors to Keck Hospital of USC might not immediately notice the Evaluation and Treatment Clinic, tucked away on the first floor of the Norris Inpatient Tower. Yet its importance to USC physicians and patients can’t be overstated.

Opened on Aug. 14, 2009, the ETC serves as a 24-hour ambulatory care center where established, private patients of USC providers can go for after-hours care. Its infrastructure was developed from the ground up by a dedicated committee of hospital administrators and physicians, led by Fred Weaver, chief of vascular surgery at the Keck School of Medicine of USC.

“Prior to the ETC, there was no place for a patient to be seen by his or her physician for an unscheduled clinic visit, for an unanticipated problem following discharge from the hospital or after hours,” said Weaver, who also serves as the ETC’s medical director. “Patients who come to the ETC

get personalized attention by their physician and nursing staff, and 30 to 40 percent of ETC patients end up being admitted for additional evaluation and care. The whole system allows us to remain the primary deliverers of care to our patients.”

Currently, the ETC includes two patient exam rooms, a waiting area, a consultation area, a nursing area and an adjacent admitting space. All nurses work in pairs of one or two registered nurses and one licensed vocational nurse to closely screen each patient.

Although the ETC is technically a clinic, its function over the past two years is somewhat different from most clinics. “Patients seen in the clinic are all cared for by one of the physicians of USC. They often have complicated and extensive medical histories that require 24/7 availability. The ETC allows us to deliver timely and personalized care,” said Yolee Casagrande, clinical and research manager for Norris Cancer

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Tania Chatila

The Evaluation and Treatment Clinic—staffed by those pictured above—serves established, private patients of USC providers. The clinic helps provide continuity of care for patients and offers a clinic site for physicians to evaluate their patients after hours.

Keck Hospital of USC party for lung transplant patients inspires

By Tania Chatila

Before Dec. 6, the only other patients Bridgette Pozo had met were patients like herself—people waiting for lung transplants.

But after a night celebrating the holiday season with the CT Transplant Support Group, Pozo gained a room full of friends with some very inspiring stories.

“I’ve seen so many people who need new lungs, but I’ve never been around so many people who have actually received them,” said Pozo, 27. “It makes me think if it happened for them, it will happen for me.”

Pozo was one of about 75 patients, relatives and Keck Hospital of USC staff members who attended the annual party recognizing patients of the lung transplant program and offering support for transplant recipients and those still on waiting lists.

“It’s like a second family,” said 31-year-old Miranda Lopez, who just celebrated the two-year anniversary of her double lung transplant. “When I walk into this place, it’s like I’m walking into my second home.”

Lopez—who was married in July after her husband proposed to her inside her Keck Hospital of USC 5-North room—is still fighting some scarring on her new set of lungs. But her outlook on life is much different today than pre-transplant.

“Before a transplant, you are making your will and thinking about all the things you are not going to get to see your kids do,” she said. “You’re coming to terms with that and at the same time, praying for a miracle. Now, I look at my life so much differently. I have a house, my husband and my kids. And I know I have some of the best doctors on my side.”

For Pozo, who had never attended a support group meeting before, the experience of meeting with and hearing from other survivors was uplifting.

“Twenty to 30 years ago, they weren’t doing the things they are doing now in medicine,” she said. “It’s really nice to hear these success stories.”

‘When I walk into this place, it’s like I’m walking into my second home.’

—Transplant patient Miranda Lopez, on Keck Hospital of USC



Tania Chatila

Left, patient Bridgette Pozo, who is awaiting a double lung transplant, speaks to Miranda Lopez and her husband at an annual holiday celebration for lung transplant patients at Keck Hospital of USC. Lopez received a double lung transplant herself two years ago.

The Weekly ETCETERA

Alfredo Sadun has been selected by the North American Neuro-Ophthalmology Society (NANOS) as the 2012 recipient of the William F. Hoyt Award. The Hoyt Award is the highest prize in clinical neuro-ophthalmology. Until now, this honor has never been given to a previous recipient of the Straatsma or Pisart Awards, both of which Sadun has received. The former is the most prestigious American Academy of Ophthalmology and Association of University Professors of Ophthalmology (AUPO) award for ophthalmology residency education; the latter the highest award given by Lighthouse International for vision research. Sadun is a professor of ophthalmology and neurosurgery at the Keck School.

Paula Cannon, associate professor of molecular microbiology and immunology, has been named to the *Utne Reader* magazine’s annual “25 Visionaries Who Are Changing Your World” list. Cannon was included on the list in recognition of her research on HIV/AIDS. According to the *Utne Reader*, “Working on the front lines of AIDS research, University of Southern California microbiologist Paula Cannon is pursuing a treatment that could enable a patient’s own cells to beat back HIV. If it’s viable, it could be a lifesaver for millions.”

The annual Visionaries list highlights people who are transforming medicine, media, policy, art and more, “... people who have that extra twist of imagination and determination and energy, people who don’t just concoct great ideas but also act on them and lay their souls on the line for change.”

The Millennium Momentum Foundation recently honored **Althea Alexander**, assistant dean of the Keck School of Medicine’s Office of Diversity, for her devotion to inspiring individuals to pursue their dreams of becoming physicians. The Los Angeles-based nonprofit foundation honored Alexander, along with luminaries including Smokey Robinson, Cicely Tyson and other celebrities, at its annual benefit dinner on Nov. 3 at the Dorothy Chandler Pavilion. Alexander has helped 648 underrepresented minority students to become physicians over the last 40 years.

Narsing Rao, professor of ophthalmology and pathology, served as chair of a recent International Congress in the field of ocular inflammation and uveitis. The 11th International Ocular Inflammation Society Congress and the International Assembly of Ocular Inflammation Societies met in Goa, India, from Nov. 13-16. The landmark meeting was the largest of its type in the history of ophthalmology in the world. More than 450 ophthalmologists attended, all of whom had an interest in ocular inflammation, including internal ocular inflammation and external ocular inflammation and infection.

Former Keck School faculty member **Allan G. Redeker** recently received the 2011 Paul E. Hadley Faculty Award for Service to USC. Presented by the USC Emeriti Center Executive Director, Janette C. Brown, the award acknowledges post-retirement service by a USC faculty member.

Redeker was recognized as a physician-scientist and educator with a distinguished career in liver disease as a faculty member of the Keck School from 1959-1989 and Emeritus Professor of Medicine in Hepatology. Since retiring from full-time status in 1989, Redeker has remained active in university life.

JONES: ‘I’m stepping aside, not stepping down’

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ment about Jones, and cited his years of dedication to the cancer center.

Peter Laird, associate professor of surgery, biochemistry and molecular biology at the Keck School and director of the Epigenome Center, thanked Jones for his many years of “leadership, guidance, collegiality and friendship,” and talked about Jones’ role as a mentor and role model.

He added, “From the beginning it was clear to me that Peter was not only a really terrific scientist, but also a person with a tremendous integrity,” he said. “He’s both incredibly supportive and always demanding of the highest standards of excellence in science.”

Yves DeClerck, professor of pediatrics, biochemistry and molecular biology at the Keck School, spoke for the community at Keck-affiliated Children’s Hospital Los Angeles, noting that the CHLA community had always felt welcome at the cancer center under Jones’ direction.

Donald Skinner, emeritus professor of urology at the Keck School, cited Jones’ collaboration with the Urologic Cancer Research Laboratory as

“the start of what we now recognize as translational research. His productivity since becoming head of the cancer center and his recruitment of basic scientists has really led to its prominence.”

In addition, Los Angeles Councilman Tom LaBonge was on hand to present a commendation from the city to Jones, noting that his wife had been cared for at the Norris Cancer Center.

Jones’ family was introduced, and he was presented with an inscribed Paul Revere silver bowl by Puliafito.

“It’s important to emphasize that I’m stepping aside, not stepping down,” said Jones. “I feel very blessed that I was able to serve as your leader for so long, and I think it’s important that we have a terrific new leader in Stephen Gruber.”

Jones reported feeling ambivalent about his move from director back to the research lab. “I have enjoyed being the cancer center director very much; it’s been the most fulfilling thing that you can imagine,” he said. “However, when I look in the mirror in the morning, I see a scientist, and I’m very excited about that.”

The Weekly

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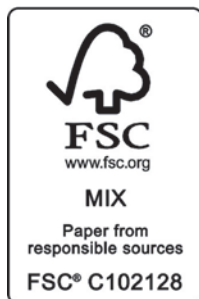
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Keck School luncheon underscores importance of scholarships

By Imelda Valenzuela
The day he received his acceptance letter from the Keck School of Medicine of USC was one of the most exciting days of third-year medical student Michael Directo’s life, he said in a speech at the school’s annual scholarship luncheon. “I feel very privileged to be attending the Keck School of Medicine for my medical education,” said Directo, who is enrolled in the MD/MBA program. Directo addressed 144 Keck medical students, donors, faculty and staff members during the Nov. 16 scholarship luncheon at the Harry

and Celesta Pappas quad. The event served to raise awareness of the importance of scholarship and the unique challenges confronted by medical students in today’s society. Dean Carmen A. Puliafito discussed the ongoing need for support of medical education. “Our tuition is about \$48,000 a year, and we rely on the support of donors to help us relieve the substantial financial pressure upon our students,” he said. “Scholarship aid, for even partial scholarships, is a tremendously useful thing for our students, and it helps us attract the top

academic students to USC.” Cianna Leatherwood, a fourth-year medical student, thanked the donors for making “the rigors of a life in medicine much more manageable.” “Without your faith, the dream of being a physician for many of us would be in conflict with the realities of financial security,” Leatherwood said. “For your contributions to the medical students of Keck, you have ensured that we can choose a field of study motivated by our individual passions, which will ultimately allow us to be the most effective and patient-centered physicians we can be.”



At the Nov. 16 Keck School of Medicine scholarship luncheon are, from left, Nancy Alba Mullenax, senior program officer at UniHealth Foundation, and Keck School student Cianna Leatherwood, a UniHealth Foundation Scholar who served as the scholarship luncheon speaker.

ETC: Visits to the clinic jump by 82 percent in its second year

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Hospital Endoscopy. The ETC has become a central coordinating hub for many services that didn’t exist two years ago, including the Rapid Response Team and the infusion center component that now exists at Keck Hospital, said Weaver. According to ETC staff, response to the

clinic has been uniformly positive. Sanjit Mahanti, an associate administrator at Keck Hospital, notes that monthly visits to the ETC averaged 100 per month in its first year, and 182 per month in its second year—an 82 percent increase. One of the biggest changes to the ETC has been the addition this year of the Rapid Response Team, which

provides assessment and initial treatment to outpatients and any other visitors who may need medical assistance while on the Keck Hospital campus. Expansion for the ETC is due sometime over the next two months, according to Annette Sy, associate administrator, hospital operations. Plans include adding two more patient rooms

for a total of five, including a larger room to better accommodate bariatric patients. “ETC’s success is really all about teamwork and collaboration,” said Casagrande. “We’ve been invited to other departmental and clinical meetings, and we see their interest in us as well. They understand what we’re doing and want to be a part of it.”

CANCER: Clinical and lab-based advances help transform cancer treatments

Continued from page 1
cancers are treated today. This breakthrough, by a team led by Brian Henderson, distinguished professor in the departments of Preventive Medicine and Neurology, paved the way for therapies including Tamoxifen (breast cancer) and Lupron (prostate cancer). The discovery also revealed the protective benefits of the contraceptive pill against ovarian and endometrial cancer. • The discovery in 1985 of molecular markers for neuroblastoma by Robert Seeger, professor of pediatrics

at USC-affiliated Children’s Hospital Los Angeles, determined that a particular cancer gene in neuroblastoma tumors could be used to predict a patient’s survival. The discovery was one of the first examples of personalized medicine. • Over the past 20 years, a team led by Heinz-Josef Lenz, professor of medicine and preventive medicine, identified novel pathways associated with tumor development and tumor progression. This discovery has influenced drug development and clinical trial

design and enabled a shift in the paradigm for personalized therapy. • Important changes in surgical techniques for bladder cancer patients developed by USC faculty dramatically enhanced the patients’ quality of life. Improving on the Kock pouch, a form of continent urinary diversion following removal of a cancerous bladder (cystectomy), a team led by emeritus professor Donald Skinner, former chair of the Catherine and Joseph Aresty Department

of Urology, developed the orthotopic form of continent urinary diversion in 1986. This enabled men and women to void naturally through their urethras. In the 1990’s, Skinner and colleagues developed the T-pouch modification that prevents the backup of stored urine to the kidneys (reflux). This surgical technique eliminates the need for an external ostomy bag. • In 2008, a team led by Michael Lieber, professor of pathology, biochemistry and molecular biology, molecular

microbiology and biological sciences, defined the key mechanisms for DNA changes in lymphoma. This discovery provided insight into a 25-year-old mystery about how chromosomal translocations occur, opening the door for future research on human lymphoma. Chromosomal translocations are DNA mutations often found in blood cancers. The mutations occur when two chromosomes break and the fragments are reassembled in an exchange that sometimes goes awry, resulting in cancer.

The Weekly NEWSMAKERS

A Dec. 12 article in **Medscape Medical News** quoted **Anne Peters**, professor of clinical medicine at the Keck School and director of the USC Westside Center for Diabetes, about contradictory studies on the risk of cancer associated with insulin glargine, marketed as Lantus.

“When studies produce conflicting results, it can be confusing for the clinician,” Peters said. “I use glargine because it is an effective long-acting insulin that is associated with less hypoglycemia (which is a serious problem in patients with diabetes). I follow as carefully as I can all reports about the safety of all the drugs I use in my patients, adjusting my treatment when evidence renders the risk greater than the benefit.”

Medscape also quoted Peters in a Dec. 9 article about new research

linking glycemic control in diabetics with declining brain function.

A Dec. 11 article by **Debu Tripathy**, professor of clinical medicine at the Keck School and co-leader of the Women’s Cancer Program at USC Norris Cancer Hospital, about research presented at the San Antonio Breast Cancer Symposium was posted on **Cure** magazine’s blog. The blog posted several stories and video entries by Tripathy during the symposium.

A Dec. 8 story by ABC News featured research led by **Cheng-Ming Chuong**, professor of pathology at the Keck School, that finds that hair growth is triggered by bodily signals that may vary with the seasons. The work may lead to the development of treatments for male-

pattern baldness, the story reported. “To deal with the hair growth, you not only try to help the stem cell, but you can improve the ‘soil,’ like: You put a tulip bulb in a nicer soil, you will grow a nicer hair,” Chuong said. Fox News, MyHealthNewsDaily.com and **Daily Mail** (U.K.) also featured Chuong’s research.

A Dec. 8 obituary in the **Los Angeles Times** noted that Barbara Orbison, widow of singer Roy Orbison, died from pancreatic cancer at Keck Hospital of USC.

She was 61 and had been receiving treatment at the Keck Medical Center of USC since May. The story was covered by the Associated Press and carried by numerous media outlets, including CBS News, **USA Today**, **The Washington Post**, **The New York Times**, **Rolling**

Stone and **People** magazine, among others.

A Dec. 7 report in **The New York Times** quoted **Kathleen Besinque**, associate professor and director of experiential programs in the School of Pharmacy, about emergency contraceptives. “Very few medications are this simple, convenient and safe,” she said.

A Dec. 6 story in **Australian Life Scientist** (Australia) noted that **Peter Jones**, distinguished professor of urology and biochemistry & molecular biology, was awarded the Rudi Lemberg Travelling Fellowship for the biological sciences by the Australian Academy of Science as part of the academy’s 2012 travelling fellowships.

NCI awards Keck School postdoc Pathway to Independence



Terry Kelly

Jon Nalick

By Sara Reeve

For young researchers embarking on an academic career, securing that first major grant can be a daunting challenge.

For postdoctoral student Terry Kelly, that is one challenge she has already met. Kelly was awarded a Pathway to Independence Award (K99/R00) from the National Cancer Institute to support her transition to an independent research career.

The award provides Kelly with five years of funding support—two years of limited mentorship, and three years of support to be taken to her first academic position.

“This award helps ease the transition from post doc to faculty positions,” said Kelly. “It can be an abrupt change with no transitional period, otherwise. It allows you a touch of independence before you

are immersed in the administrative task of running a lab in addition to conducting research. The most difficult bottleneck is getting that first faculty position—this helps get that first position.”

Peter Jones, former director of the USC Norris Comprehensive Cancer Center and distinguished professor of urology and biochemistry and molecular biology at the Keck School of Medicine, will provide limited mentorship for the first two years of Kelly’s grant.

“These awards are very competitive and it’s quite an honor to receive one,” said Jones. “But what it does is give her two more years here in a reduced mentorship arrangement with me—I help her, but she has much more freedom to do her own work—thus allowing her to establish her own credentials

in the field. And then of course it gives her a tremendously strong competitive advantage for other positions because, if she were to be offered a job somewhere else, they would see that she already had three years of funding. So it’s really an incredible announcement.”

Kelly, who received her doctorate in neuroscience at UCLA and has pursued postdoctoral training in epigenetics in Jones’ lab, will focus her research on the epigenetics of brain tumors, which she hopes may point the way toward new treatments.

“It is very rewarding to know that I am asking interesting questions about epigenetic changes evident in brain tumors,” said Kelly. “Someone agrees that what I want to do with my life is interesting and worth it.”

USC study sheds light on immune system’s role in tissue regeneration

By Beth Dunham

A new study in *Nature Medicine* describes how different types of immune system T-cells alternately discourage and encourage stem cells to regrow bone and tissue, bringing into sharp focus the importance of the transplant recipient’s immune system in stem cell-

based regeneration.

The study, conducted at the Center for Craniofacial Molecular Biology at the Ostrow School of Dentistry of USC, examined how mice with bone defects responded to bone marrow mesenchymal stem cell (BMMSC)-mediated bone regeneration.

Under normal conditions,

the mice’s T-cells produced an inflammatory response and triggered the creation of cytokines interferon (INF)-gamma and tumor necrosis factor (TNF)-alpha. These attacked and killed the stem cells, preventing the production of new bone.

“Normally, T-cells protect us from infection,” said Songtao Shi, associate professor of dentistry and corresponding author for the study, “but they can also block healthy regeneration from happening.”

However, when the mice were given infusions of regulatory T-cells (Tregs), the levels of the interfering INF-gamma and TNF-alpha decreased, increasing the rate of bone regrowth and defect repair. Administering the anti-inflammatory drug aspirin at the site of the bone defect also increased the rate at which the BMMSCs were able to regrow bone.

Postdoctoral research associate and lead author Yi Liu said the findings illustrate the previously unrecognized role of T-cells in tissue regeneration.

They also highlight the need for scientists exploring the possibilities of stem cell-based regeneration to shift their focus to the immune system, she added.

“Based on what we’ve found, this should be the direction of more research in the future,” Liu said.

Take *The Weekly* readership survey

To make *The Weekly* more responsive, useful and informative, we are conducting an online readership survey through mid-January. We will compile the survey results and report back in the new year with a story on your feedback, as well as on any changes to this publication that we feel are appropriate based on survey responses.

Please take five minutes to complete the survey at: <https://www.surveymonkey.com/s/theweekly>. Respondents will be entered into a drawing for a \$25 USC Bookstore gift card.



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Calendar of Events

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

Friday, Dec. 23

Noon. Medicine Grand Rounds. “Alcoholic Hepatitis,” Jenny Chiu, USC. IPT Conference Room B. Info: (323) 226-7556

Tuesday, Jan. 10, and Wednesday, Jan. 11

4 p.m. USC Office of Federal Relations Workshops on Navigating Federal Grant Landscape. “What’s With Washington? Your Roadmap to Federal Funding in a Challenging Fiscal Environment” on Tuesday, Jan. 10 and Wednesday, Jan. 11, on the Health Sciences and University Park Campuses, respectively. Presenters from Washington will discuss the outlook for a wide spectrum of federal funding agencies in 2012.

Tuesday, January 24

Noon. Cancer Center Grand Rounds. “State of the Cancer Center,” Stephen Gruber, USC. NRT Aresty Auditorium. Info: (323) 865-0801

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.

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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.

