KECK SCHOOL FETES NEW RECRUITS — Keck School of Medicine Dean Carmen A. Puliafito recently celebrated the recruitment of world renowned neuroscientists Arthur Toga and Paul Thompson — and more than 100 faculty, researchers and staff — to the Keck School. Above, with Traveller and rider Hector Aguilar at a June 6 party in Pasadena, are (from left), Toga, Puliafito and Thompson.

USC supporter John Reid weds — and presents wedding gifts to the Keck School

By Amy E. Hamaker

When his wife, Darlene Dufau Reid, passed away after a long illness in 2008, John Reid (USC BS ’69), a Superior Court judge for 27 years who presently sits in the Santa Monica courthouse, was not sure love would ever find him again.

Then one day, John bumped into his future wife, Karen, by chance. “Darlene had been gone a couple of years and I was tired of eating my own cooking,” recalled John. “I wandered down to the pier in Malibu, and Karen was standing on the pier talking on the phone to her son. I looked at her, and she looked at me, and I couldn’t help myself — I asked her out to dinner. We stayed talking that evening until the restaurant closed.”

John and Karen were married on April 6, 2013. In lieu of gifts, the couple requested donations in support of the Darlene Dufau Reid Endowed Scholarship Fund at the Keck School of Medicine of USC. The scholarship is presented annually to an outstanding medical student. To date, donations in honor of the ceremony have reached nearly $13,000.

Both John and his late wife Darlene had a deep connection to USC at the undergraduate level and at the Keck School. Both John and Darlene were former national directors of the USC Parents Association, past members of the USC Alumni Association Board of Governors and parents of a 2005 graduate of the Keck School.

John is also a current director of the Keck School of Medicine Parents Association. Darlene graduated from USC with a bachelor’s degree in sociology in 1967 and a master’s degree in education in 1969. She became a full-time university volunteer after practicing law and working as a TWA flight attendant for 25 years.

In 2004, Darlene received the alumni association’s Alumni Service Award. In 2006, while president of the USC University Hospital Foundation, she asked the alumni association’s Board of Governors and parents of a 2005 graduate of the Keck School.

John and Karen Reid requested that in lieu of traditional gifts for their wedding, guests consider donations to the Darlene Dufau Reid Endowed Scholarship Fund.

USC supports Pfizer, USC launch new R&D partnership

By Amy E. Hamaker

A significant number of drugs originate in the academic medical community, but progress toward translating new pharmaceutical breakthroughs to the clinic is often slow and prohibitively expensive.

Research suggests that since the early 1980s, the number of Food and Drug Administration-approved drugs has stayed the same, while investments in research have increased from $5 billion to $35 billion. Anthony Coyle, vice president and chief scientific officer of Pfizer’s Centers for Therapeutic Innovation (CTI), said: “There is a premium being placed on true innovation, and increasingly, major biomedical institutions and industry are finding they share common objectives.”

“To help speed the drug development process, CTI is teaming up with USC to combine academic medical center research teams with Pfizer’s technological, legal, regulatory and commercial expertise.”

“Pfizer has given us a unique opportunity to partner through CTI,” said Stephen B. Gruber, director of the USC Norris Comprehensive Cancer Center. “We have been working together over the past year to put this project into motion, and we are excited to offer this opportunity for collaboration to our researchers.”

Currently, CTI has established partnerships with 23 academic medical centers across the United States, and it supports collaborative projects from four dedicated labs in Boston, New York City, San Francisco and San Diego.

Pfizer, USC launch new R&D partnership

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See PFIZER, page 2

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John and Karen Reid graduated from USC’s alumnae groups, most notably on behalf of the CScions program for USC legacy students.
Uttam K. Sinha assumes two new medical leadership roles

Uttam K. Sinha, associate professor of otorhinolaryngology and Watt Family Chair in Head and Neck Cancer at the Keck School of Medicine of USC, has been appointed to two key new leadership positions.

Sinha will serve as medical director of head and neck surgery, and as associate dean of surgical simulation, with the goal of improving patient survival rates, enhancing quality of life and reducing the cost of care. Breakthrough clinical trials conducted at the institute will also help bring research from the lab to the bedside, and an international focus will expand its scope and reach on a global level.

As associate dean of surgical simulation, Sinha will also lead the establishment of a surgical simulation and innovation program to help train future clinicians.

Sinha was praised in a statement released by Senior Vice President and CEO for USC Health Thomas K. Jackiewicz, Keck School Dean Car- men A. Puliafito, and Professor and Chair of the Department of Otorhinolaryngology-Head and Neck Surgery John K. Niparko, “Dr. Sinha is a leading international expert in the treatment of head and neck cancers, and one of a select number of national surgeon scientists in this field operating a high-volume clinical practice while also conducting translational research,” they wrote. “With a career at USC that spans nearly 30 years, and breakthroughs in areas such as saliva diagnostics, nanotechnology and cancer stem cell research, Dr. Sinha is poised to make many more lasting contributions to our medical enterprise.”

Tamara Brown will take on Sinha’s previously held role of chief of service for the USC Norris Medical Center. Nick Kokot will assume Sinha’s role of residency program director for the Department of Otorhinolaryngology.

Genetic disease linked to father’s age

By Robert Perkins

Although USC have unlocked the mystery of why new cases of the genetic disease Noonan Syndrome are more common. Over time, a mutation that causes the disease disproportionately increases a normal father’s production of sperm carrying the disease trait.

When this Noonan syndrome mutation arises in a normal sperm stem cell, it makes that cell more likely to reproduce itself than stem cells lacking the mutation. The father then is more likely to have an affected child because more mutant stem cells result in more muta- tant sperm. The longer the man waits to have children the greater the chance of having a child with Noonan syndrome.

Noonan Syndrome is among the most common genetic diseases with a simple inheritance pattern. About one of every 4,000 live births is a child with a new disease mutation. The disease can cause craniofacial abnormalities, short stature, heart defects, intellectual disability and sometimes blood cancers.

REID: Scholarships trump wedding gifts

Continued from Page 1

Although Karen did not attend USC, she has quickly become part of the Trojan Family. Both Karen and John felt that the suggestion of donations in lieu of wed- ding gifts was natural.

“We both have our own households and didn’t need the traditional wedding gifts — we have too many irons in the fire,” John explained. “Our first thought was to ask for no wedding gifts, but we’d like to try to add to Darlene’s scholarship to help more students.

“Karen is a wonderful woman,” added John. “She’s kind and giving, and we wanted to do our best to give back to USC students and their parents — and most importantly, help wonder- ful, highly educated people achieve their goals. As part of the Trojan Family, helping others reach their goals is just an ongoing thing you do.”

The Weekly

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It’s never to early to learn about fire safety

By Josh Grossberg

About 40 preschoolers from the USC Child Care Program at the Health Sciences Campus attended a June 26 presentation, where they learned how to keep safe if they encounter a fire.

“Kids is kids,” explained Robert Vance, emergency management officer at Keck Medical Center, and Jim Buck, program coordinator for the Rapid Response Team, deliver advice about household fire safety to children from the USC Child Care Center.

From left, Robert Vance, emergency management officer at Keck Medical Center, and Jim Buck, program coordinator for the Rapid Response Team, deliver advice about household fire safety to children from the USC Child Care Center.

The new findings also suggest an important new molecular mechanism to explain how certain genetic disease mutations can alter a sperm stem cell function leading to exceptionally high frequencies of new cases every generation.

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By examining the tests from 15 unaffected men, the team led by USC molecular and computational biologists Norman Arnheim and Peter Calabrese found that new mutations were highly clustered in the testis, and that the overall proportion of mutated stem cells increased with age. Their computa- tional analysis indicated that the mutation gave a selective edge over non-mutated cells.

“There is competition between stem cells with and without the mutation in each individual testis,” said Arnheim, who has joint appointments at the USC Dornsife College of Letters, Arts and Sciences and the Keck School of Medicine of USC. “But what is also unusual in this case is that the mutation which confers the advantage to testis stem cells is disadvantageous to any offspring that inherits it.”

The new findings also suggest a crucial new mechanism to explain how certain genetic disease mutations can alter sperm stem cell function leading to exceptionally high frequencies of new cases every generation.

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PEL), a type of cancer for primary effusion lymphoma infected with HIV.

Cancer Center have a new way to treat a rare and Norris Comprehensive Center have covered as “an important recognition of the quality and importance by the process that caused the lymphoma. By analyzing chromosomal break sequences in human cancer. By analyzing chromosomal break sequences collected from patients, we have discovered the fingerprints left by the process that caused the lymphoma. Lu described the placement of the study on the journal cover as “an important recognition of the quality and importance of the research.” For Lu, this honor and distinction has energized his passion for research.

“I am excited and will continue to devote myself toward understanding how human lymphomas arise,” Lu said. “Some day this knowledge will help prevent people from getting this and other types of cancer.”

Chaudhary and his colleagues have shown that inhibitors targeting the BRD4 protein blocked growth of PEL cells in a test tube and in a mouse model. The results were surprising because BET inhibitors were thought to be only effective against cancers linked to an overexpression of the Myc gene. “We actually found that cancers that overexpress Myc are not as responsive to BRD4 inhibitors. PEL is more responsive,” Chaudhary said.

Cancers, such as multiple myeloma and Burkitt’s lymphoma, have overall accountability to bring medical science to the patient bedside in improving health. “This new partnership with Pfizer will be a benefit to both our scientists and, ultimately, the patients they serve.” Carmen A. Puliafito, dean of the Keck School, added, “Pfizer’s goal for its CTI program is ultimately to bring medical science to the patient bedside in improving medical needs, and that fits perfectly with the Keck School’s mission to make scientific discoveries and translate them into improved health.”

Two-page, non-confidential pre-proposals must be submitted to the Office of Foundation Relations at the Keck School of Medicine of USC or before July 15, all researchers, clinicians and postdocs may apply. For more information, contact Karice Munjal, associate director for Foundation Relations at the Keck School, at (323) 442-2355 or munjal@usc.edu.

USC research IDs potential treatment for deadly, HIV-related blood cancer

Continued from Page 1

The laboratories are small, semi-autonomous units located at the academic medical centers. Laboratory staff includes both Pfizer employees and medical center postdocs.

Selected USC researchers will have access to Pfizer’s proprietary drug discovery tools and technologies and support for IND (investigational new drug)- and clinical-enabling functions (toxicology, regulatory, etc.).

The research process begins with a pre-proposal and, if successful, a full proposal that is jointly prepared.

Selected researchers enter into a two-year agreement based on an agreed-upon deliverables. According to Coyne, current areas of CTI research interest include oncology (antibody drug conjugates, immunomodulator agents, etc.), rare diseases, immunology/inflammation, pain and renal disease.

A July 6 broadcast of CNN’s The Next List focused on autism spectrum disorders like attention deficit hyperactivity disorder. Brent Polk, chair of pediatrics and preventive medicine at the Keck School of Medicine, was quoted in the Business Journal story. “We actually found that chromosomes rearrangements are common in human cancer. By analyzing chromosomal break sequences collected from patients, we have discovered the fingerprints left by the process that caused the lymphoma. Lu described the placement of the study on the journal cover as “an important recognition of the quality and importance of the research.” For Lu, this honor and distinction has energized his passion for research. “I am excited and will continue to devote myself toward understanding how human lymphomas arise,” Lu said. “Some day this knowledge will help prevent people from getting this and other types of cancer.”

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“A July 6 report in Oncology Nurse Advisor referenced an editorial by Heinz-Josef Lenz, professor of medicine and preventive medicine at the Keck School of Medicine, about a new blood test that may identify cancer before a tumor develops in the colon. “If 2025 may not be ‘just another brick in the wall,’ but rather may be the keystone leading to a molecularly justified, mRNA-based biomarker era in colorectal cancer,” Lenz said.

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USC study shines light on stem cell reprogramming
By Josh Grossberg

Researchers are learning how to turn regular cells into stem cells, a process called reprogramming. However, some of the mechanisms of the process remain unknown, such as why only a small proportion of the cells can be reprogrammed. Researchers have at least part of the answer: the structure of genes.

“Nobody knows anything about how the 3-D genome structure is reorganized during reprogramming,” said Wange Lu, associate professor at the Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC and the Department of Biochemistry and Molecular Biology at the Keck School of Medicine of USC. “But we found out that it is a very important process. If the structure is not established correctly, the cells may cause diseases when they are used later in clinical applications.”

Lu and his team have made a series of discoveries that shed light on the process. Their findings have been published in the July issue of Cell Stem Cell.

The authors chose to examine the structure of the most important gene for stem cell identity, named Oct4. They found that the structure of the gene is different in stem cells compared to other cells. The research further showed that stem cell genome structure is established only in a small percentage of cells before the cells are fully reprogrammed. This suggests building up a stem cell-specific 3-D structure is a prerequisite of generating stem cells.

The researchers observed that the stem-cell-specific organization of the Oct4 gene can facilitate its activation. During reprogramming, the cells that first gain a stem-cell-like structure are much more likely to activate Oct4, which is required for becoming stem cells.

Andrew McMahon, director of the stem cell center, praised Lu’s work. “Dr. Lu’s study adds an exciting new dimension to the organization and interaction of genes in the nucleus regulating the actions of stem cells,” he said.

The findings will help build a foundation of further studies, according to Lu. “Knowing the 3-D structure is only the first step of understanding the property of stem cells. Future studies will lead to protocols which can alter the structure and manipulate the cell fate outside the human body for therapeutic applications.”

Better patient care? Yes, there’s app for that
By Josh Grossberg

Thanks to some cutting-edge technology, impatient nurses and Keck Medical Center of USC will soon be able to connect with patients and other nurses and receive critical alarms just by reaching into their pockets.

In August, the center will receive 300 specialty iPhones that will enable inpatient nursing staff to work faster, smarter and easier. “This will become their communication device,” said Keith Paul, chief technology officer for USC Health Information Services. “The idea is to give them one device to do everything.”

When the devices are fully functional, nurses will be able to receive secure messages from patients and other nurses, as well as emergency alerts. The phones, which will be equipped with larger batteries than normal and a tough shell casing, can also show colleagues when a particular nurse is available.

“The phones will synch with KeckCare, the hospital’s new electronic medical record system, which is currently being rolled out. “In future KeckCare integration, when lab results come back, they can get it on the phone,” Paul said.

For security purposes, the devices will not have cellular abilities and will only function on campus. They will be able to make calls on the campus’ secure Internet link.

Nurses currently use old-style cell phones with displays too small to show much data, Paul said.

Paul said he was in the market for new telecommunication devices when the representatives for the company installing KeckCare told him that they could link the system with the phones. “I had to buy something,” Paul said. “And we had the voice-grade infrastructure.”

Nurses will not be given their own phone. Instead, they will pick one up at the start of their shift and enter their user identification and password to activate the device. They will return the phones to a charging station at the end of the shift.

Paul said nurses are excited about the phones, but he will see what future integration occurs before deciding whether to expand the use to other areas.

With new apps and technologies becoming available all the time, he thinks devices like this will become more and more common. “The options are unlimited,” he said. “After all, you’re holding a computer in your hand.”

In case of an emergency...
Call the Emergency Information Phone: (312) 740-3133 The emergency telephone system can handle 1,400 simultaneous calls. It also has a backup system on the East Coast.

Visit the USC Web: http://emergency.usc.edu This page will be activated in case of an emergency. Backup Web servers on the East Coast will function if the USC servers are incapacitated.