

Keck Medical Center of USC gains in *U.S. News*' national rankings

By Sherri Snelling

Keck Medical Center of USC maintained its No. 3 ranking among top hospitals in the Los Angeles metro area and No. 8 in California but also moved up in national rankings — posting No. 9 in ophthalmology, No. 20 in urology, No. 23 in cancer and No. 33 in geriatrics — in the 2014-2015 *U.S. News & World Report* annual “Best Hospitals” rankings released on July 15.

The hospitals and related institutes which comprise Keck Medical Center of USC have consistently ranked among the top 10 in California since 2009 when USC purchased the two hospitals: Keck Hospital of USC and USC Norris Cancer Hospital. While the USC Eye Institute maintained its No. 9 national ranking in ophthalmology from last year, Keck Medical Center of USC moved up nine ranks to No. 20 for its USC Institute of Urology, and jumped more than 25 ranks to No. 23 for its cancer care at USC Norris Cancer Hospital. Last year, Keck

#9 Ophthalmology* **#23** Cancer
#20 Urology **#33** Geriatrics

*USC Eye Institute's 24th year in the top 10.

Medical Center of USC was not ranked in geriatrics but this year achieved a No. 33 ranking nationwide in this specialty.

In addition, Keck Medical Center was “high performing” in seven specialty areas: cardiology and heart surgery; ear, nose and throat; gastroenterology and GI surgery; gynecology; nephrology; neurology and neurosurgery; and orthopedics.

A “high performing” score represents hospitals ranking among the top 25 percent nationally in a given specialty.

Just three percent of the nearly 5,000 hospitals

analyzed earned national ranking in even one specialty.

“These rankings underscore our commitment to quality patient care and recognize the exceptional medicine we perform every day,” said Tom Jackiewicz, senior vice president and CEO of USC Health. “Health care has undergone tremendous change in the last year but we have stayed focused on our

mission to provide the expert medical care where and when patients need it — from the hospital to the outpatient setting in a growing number of communities across Southern California.”

Keck School of Medicine Dean Carmen A. Puliafito, MD, MBA, said, “This recognition shows that the reputation of our faculty physicians continues to grow — and it underscores their dedication to providing the best possible health care to their patients. We’re proud of their achievements, as well as their exceptional commitment to educating and training the next generation of doctors.”

Desai named CEO of USC Care, Ambulatory Care Services

Keck Medicine of USC has appointed seasoned physician executive Amar Desai, MD, MPH, as chief executive officer of USC Care and Ambulatory Care Services, effective Aug. 1.

Desai is an experienced health-care executive with significant expertise leading health systems to improved quality, reduced costs and clinical integration. He joins Keck Medicine of USC from DaVita Healthcare Partners Inc., where he currently serves as chief medical officer of the Paladina Health division and previously led corporate strategic development for the enterprise.

At USC, he will report to Tom Jackiewicz, senior vice president and CEO of USC Health, and will work closely with leadership across the university-based health system to achieve the system’s ambulatory and physician alignment goals.

This role is critical for our rapidly expanding health system,” said Jackiewicz. “The development of our ambulatory care network, through our existing faculty and community doctors is an essential component of our enterprise-wide clinical strategic plan. Dr. Desai will provide executive oversight

of all Keck Medicine of USC ambulatory satellites, including our hospital-based clinics, Keck School department clinics, and other new outpatient joint venture partnerships and community practices.”

Desai will be responsible for driving quality and best practice standards associated with USC Care and will promote an integrated clinical environment to streamline care coordination, set quality benchmarks and improve clinical outcomes.

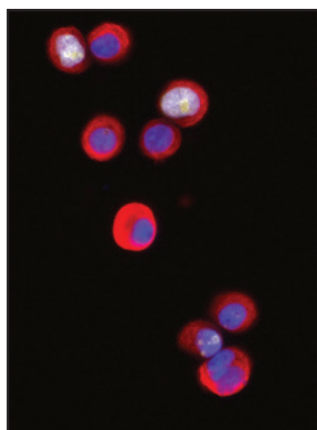
“This is a transformational time for Keck Medicine of USC as it evolves into a health system that can truly deliver integrated care,” said Desai.

“In the post-healthcare reform world, USC’s physician practices and ambulatory care services will be a critical platform for long-term growth and success. We have world-class physicians at Keck Medicine of USC. Our aspiration is to demonstrate a highly differentiated quality and service experience to the patients and communities we serve and bring the best of USC’s health care to Southern California and beyond. There is tremendous opportunity at USC.”



Amar Desai

USC Stem Cell researcher targets breast cancer metastasis



Above, stained circulating tumor cells have been isolated from the peripheral blood of a breast cancer patient.

By Cristy Lytal

For breast cancer patients, the era of personalized medicine may be just around the corner, thanks to recent advances by USC Stem Cell researcher Min Yu, MD, PhD, and scientists at Massachusetts General Hospital and Harvard Medical School.

In a July 10 study in *Science*, Yu and her colleagues report how they isolated breast cancer cells circulating through the blood streams of six patients.

Some of these deadly cancer cells are the “seeds” of metastasis, which travel to and establish secondary tumors in vital organs such as the bone, lungs, liver and brain.

Yu and her colleagues managed to expand this small number of cancer cells in the laboratory over a period of more than six months, enabling the identification of new mutations and the evaluation of drug susceptibility.

See **CANCER**, page 2



Vaughn Starnes, chair of the Department of Surgery at Keck School of Medicine, appears on the cover of the current issue of *Pasadena Magazine*, which lists the region’s top physicians.

Pasadena Magazine names 500 Keck Medical Center physicians to top doctors list

By Hope Hamashige

The number of Keck Medical Center of USC physicians included in an annual ranking of top doctors in the San Gabriel Valley grew in 2014.

Pasadena Magazine included 505 USC physicians in its current roster of notable physicians in the San Gabriel Valley, up from 345 last year and 273 in 2012. The doctors come from more than 40 specialties including radiology, oncology, otolaryngology, neurology, cardiology and urology.

Vaughn Starnes, chair of the Department of Surgery at Keck School of Medicine of USC and the executive director of the USC CardioVascular Thoracic Institute, graced the cover of the magazine and gave *Pasadena Magazine* an interview in which he shared his thoughts about his career, the future of health care and operating on Arnold Schwarzenegger.

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\$1 million gift honors late Keck School urologist John Stein

‘We are most grateful for the continuing generosity of Jane whose gift will be a lasting tribute to her father, Al, her family and the memory of Dr. Stein.’

— Stephen B. Gruber,
MD, PhD, MPH, Director
of the USC Norris
Comprehensive Cancer
Center

By Hope Hamashige
Jane Centofante came to understand the expertise of the urologists at the USC Norris Comprehensive Cancer Center in an all too personal way.
In 1999, her father Albert Centofante, was treated for bladder cancer at USC Norris by Donald G. Skinner, MD, who was then the chair of the Catherine and Joseph Aresty Department of Urology, Keck School of Medicine of USC.
Through the course of her father’s treatment, Centofante also came to know some of the physicians and medical staff of the USC Norris. Jane Centofante and her family’s impression of the care that their father received was the impetus for her first two initial gifts to the John P. Stein, MD, Endowed Chair in Urologic Cancer Research in memory of her father Al and, finally, her most recent gift of \$1 million to fund the Stein chair.
“We are most grateful for the continuing generosity of Jane whose gift will be a lasting tribute to her father, Al, her family and the memory of Dr. Stein,” said Stephen B. Gruber, MD, PhD, MPH, Director of the USC Norris Comprehensive Cancer Center.
Stein was a nationally recognized oncologist and researcher before his untimely passing in 2008 at the age of 45. Among his significant research findings was the identification of a molecular marker that predicts which



Gathered around the photo of late USC urologist John P. Stein are (from left): his brother Tom Stein; his wife Randi Stein; Stephen B. Gruber, director of the USC Norris Comprehensive Cancer Center; Jane Centofante; and Stein’s parents Helen Mary and Robert Stein.

bladder cancer patients would likely face remission and which would have relapses. He also created a surgical technique that revolutionized bladder reconstruction in women. He was the recipient of several honors, including the Young investigator Award from the Society of Urology Oncology.
Stein completed his urology residency under Skinner’s direction and spent his entire clinical career at USC Norris and Keck School of Medicine, rising to the rank of professor. Stein’s reputation led to his inclusion on the list of “America’s Top Doctors” for every year since 2005.

Jane Centofante and her family have a long tradition of philanthropy, following in the footsteps of their parents, Mary and Albert Centofante. Albert Centofante graduated from USC in 1952 with a degree in accounting. In the early 1960s, he co-founded Astrophysics Research Corporation-an early high-technology firm that developed X-ray security screening equipment for airports, twch by 1980 occupied more than 90 percent of the overall X-ray security market in the United States and 60 percent of the international market including Russia and China.

CHLA receives \$4 million federal grant to create atlas of the developing human lung

By Ellin Kavanagh/CHLA
A team of Keck School of Medicine of USC investigators at The Saban Research Institute of Children’s Hospital Los Angeles has been awarded \$4 million over five years by the National Heart Lung and Blood Institute (NHLBI) for LungMAP, an atlas of the developing human lung.
Borrowing from Hollywood blockbusters, the researchers are employing state-of-the-art animation technology in combination with advanced

optical imaging and high-resolution X-ray imaging techniques. This novel technology will allow them to explore the composition and interaction of cells in the developing lung and to follow how the processes evolve over time.
The fetal lung is one of the last organs of the body to become fully functional. Development of the alveolus — tiny air sacs in the lungs where oxygen and carbon dioxide are exchanged — remains the critical factor in newborn viability as well as the origin of many childhood breathing disorders.
“Human alveolar development is currently a ‘black box’ because of the challenges of being able to see alveoli as they grow,” said principal investigator David Warburton, DSc, MD, MMM, professor of pediatrics at the Keck School and director of the developmental biology and regenerative medicine program at The Saban Research Institute.
“Using newly optimized visualization technology we can now perform a ‘virtual

bronchoscopy’ that begins in the bronchus and allows us to peer into the alveolus.”
Alveolarization begins in humans at 20 to 24 weeks gestation and continues until at least age 7. To date, much of the information about this process has come from studying histological sections of lung. The LungMAP project will acquire information from the living, functioning lung. Using novel imaging technologies, the Saban researchers will create a high-resolution, four-dimensional map that catalogs the molecular, genetic and cellular events occurring during alveolar development in mice and humans.
By employing digital image processing techniques, high-resolution scans of real lung tissues can be converted into video. This approach enables observation of the overall topography of the airway as well as revealing information about the surfaces of individual cells.

CANCER: Study targets metastasis

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If perfected, this technique could eventually allow doctors to do the same: use cancer cells isolated from patients’ blood to monitor the progression of their diseases, pre-test drugs and personalize treatment plans accordingly.
In the six estrogen receptor-positive breast cancer patients in the study, the scientists found newly acquired mutations in the estrogen receptor gene (ESR1), PIK3CA gene and fibroblast growth factor receptor gene (FGFR2), among others. They then tested either alone or in combination several anticancer drugs that might target tumor cells with these mutations and identified which ones merit further study. In particular, the drug Ganetespib — also known as STA-9090 — appeared to be effective in killing tumor cells with the ESR1 mutation.
“Metastasis is the leading cause of cancer-related death,” said Yu, assistant professor in the Department of Stem Cell Biology and Regenerative Medicine at the Keck School of Medicine of USC. “By understanding the unique biology of each individual patient’s cancer, we can develop targeted drug therapies to slow or even stop their diseases in their tracks.”

HSC News

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USC Norris cancer patient spurred to fight on by the Trojan marching band

By Hope Hamashige
For his last radiation treatment, Russ Enyeart’s doctor told him she wasn’t going to be able to keep his usual 1:30 appointment time and had to push it back to 5 p.m. She was bending the truth.

Leslie Ballas, MD, assistant professor of clinical radiation oncology at the Keck School of Medicine of USC, was really helping Russ Enyeart’s wife throw a surprise for her husband’s final prostate cancer treatment. Mary Jo Enyeart had arranged for the USC Trojan Marching Band to play for him as he left USC Norris Cancer Hospital, where had been receiving treatment since May 15.

“I was completely shocked and astounded,” said Russ

Enyeart, a police detective who had no idea a surprise was brewing. “I heard “Fight On” and I thought it was a recording until I saw them. I was blown away.”

It was a fitting celebration for Russ Enyeart, a serious USC football fan who, along with his wife, is a member of the Cardinal & Gold athletic support group. But getting the Spirit of Troy to play him a rousing fight song to celebrate the end of his treatment took a lot of coordination.

Ballas wasn’t the only member of Keck Medical Center of USC’s staff who helped Mary Jo Enyeart pull off her surprise. Nikos Carli, senior clinical administrator in the Department of Radiation Oncology, hid Enyeart’s friends

and family in the hospital where Enyeart would not see them. He also had to sneak the band into the hospital under Enyeart’s nose.

Enyeart is no longer just a USC football fan. He is also a serious booster of Keck Medical Center of USC. His wife had been a patient at Keck Hospital of USC more than a dozen years before, and they were impressed with the medical staff.

And even though Russ Enyeart admits he dreaded radiation treatment, he knew he was going to be treated well at USC Norris.

“I will tell anyone the level of care is unequalled,” he said. “Dr. Ballas was phenomenal and everyone who works there — the techs, nurses, custodial staff — was caring and kind.”



Cancer patient Russ Enyeart (center) enjoys a surprise party thrown by his physician Leslie Ballas (center left) and his wife Mary Jo (center right) following his final treatment.

Agustin Mares

USC Stem Cell scientists build a better ‘mouse TRAP’ to help fight disease

By Cristy Lytal
USC Stem Cell scientists have set a “mouse TRAP” to capture the early signs of kidney failure, as described by a recent study published in the *Journal of Clinical Investigation*. Their new transgenic mouse line uses a technique called TRAP to extract cellular and genetic information from a variety of solid organs.

Invented by scientists at the Rockefeller Institute for Medical Research in 2008, TRAP involves attaching a fluorescent tag to the protein-making machinery,

or ribosomes, of the cell type of interest. Scientists can then collect the tagged ribosomes and determine which active genes are ordering proteins to be made by these ribosomes. (TRAP stands for “translating ribosome affinity purification.”)

Following up on this breakthrough, the USC team — led by Jing Liu, PhD, senior research associate in the laboratory of Andy McMahon, PhD, FRS — has made the technique simpler and more accessible by engineering a TRAP mouse. When bred with any

one of thousands of existing strains of transgenic mice, the TRAP mouse produces progeny with tagged ribosomes in specific organs or cell types.

To demonstrate how useful this can be, Liu and her colleagues used TRAP mice to tag four different types of kidney cells and identify early signals of acute kidney injury.

As a consequence of surgery, infections or drug toxicity, five to seven percent of all hospitalized patients experience acute kidney injury, which can

lead to chronic kidney disease or death.

Currently, doctors can only detect acute kidney injury a full day after it occurs. The TRAP mouse enables earlier detection, which will greatly improve patients’ health.

“The technology is simple, and the kidney field is very excited about our results,” said Liu. “I anticipate that the TRAP mouse will advance our cellular and molecular understanding of a wide variety of diseases and injuries in many different organ systems.”

Along with Liu and Mc-

Mahon, co-authors include: A. Michaela Krautzberger, DVM, PhD; Shannan H. Sui, PhD; Oliver M. Hoffmann, PhD; Ying Chen, MS; Manfred Baetscher, PhD; Ivica Grgic, MD; Sanjeev Kumar, MD, PhD; Benjamin Humphreys, MD, PhD; and Winston A. Hide, PhD.

The research was supported by the Harvard Stem Cell Institute and the California Institute of Regenerative Medicine (53-5178-7980) as well as by Grgic’s fellowship from the Deutsche Forschungsgemeinschaft (GR 3301/4-1).

MILES AWAY, BUT THERE IN SPIRIT — Keck Hospital of USC patient Jim McDermott and Fox 11 News reporter Christine O’Donnell watch McDermott’s son graduating from Orange County School of the Arts on June 12. McDermott, who is awaiting a heart transplant, watched the graduation remotely via FaceTime with his family, and via a live stream from the school that he watched on a laptop provided by 4-ICU at Keck Hospital of USC.



Leslie Ridgeway

Archstone Foundation funds research on depression among elderly Latinos

By Hope Hamashige
The Archstone Foundation awarded \$122,000 to expand a USC mental health research study aimed at addressing depression among older Latinos suffering from a chronic illness.

Led by Isabel Lagomasino, MD, assistant professor of clinical psychiatry at the Keck School of Medicine of USC, Cuerpo Sano, Mente Sana (Spanish for “Healthy Body, Healthy Mind”) is a self-management intervention program that educates and empowers patients to take control of their own health care.

Patients, who are recruited from LAC+USC Medical Center, are asked to attend eight weekly group self-management sessions during which the participants receive information on general health and depression, and how to access help in their communities. They also learn strategies for improving their interpersonal relationships, managing their cognitive symptoms and interrupting negative thoughts.

The patients are later evaluated for changes in their depression and overall health and their results are compared

with a control group that does not attend the group sessions. The patients recruited under the Archstone grant will also be evaluated for changes in diabetes and blood pressure.

The Archstone grant expands upon a current grant from the National Institute of Mental Health (NIMH) to assess the feasibility, implementation strategy and potential sustainability of Cuerpo Sano, Mente Sana. The NIMH award was to ensure the feasibility of the program by conducting a series of small pilot tests and making any needed revisions.

patients,” said Carmen A. Puliafito, MD, MBA, dean of the Keck School of Medicine of USC.

“Our doctors are committed to serving this community and it is wonderful to see their dedication recognized.”

To be considered for inclusion in the list, physicians in the San Gabriel Valley and Los Angeles area were nominated and then voted on by their peers, who submitted confidential ballots. Doctors cannot pay to be included on the list.

Pasadena Magazine has published its list of top doctors in the San Gabriel Valley since June of 2008.

TOP DOCS: USC physicians stand out

Continued from Page 1

One concern Starnes shared about the future of health care had to do with the education of future doctors. Young doctors are graduating with more debt than ever, he pointed out. At the same time, the current environment is putting pressure on doctors to deliver health care inexpensively.

The list includes 382 faculty physicians from the Keck School of Medicine of USC, 137 of whom practice at either Children’s Hospital Los Angeles or LAC+USC Medical Center. In addition, 123 doctors, from USC Verdugo Hills Hospital, including 11 Keck School of Medicine of USC faculty members, were also recognized, representing specialties such as orthopaedic surgery, pulmonology and general surgery.

“This list commends our outstanding faculty physicians for their achievements in their research and in treating their patients,” said Carmen A. Puliafito, MD, MBA, dean of the Keck School of Medicine of USC.

“Our doctors are committed to serving this community and it is wonderful to see their dedication recognized.”

USC professor awarded \$250,000 for Parkinson’s disease research

By Hope Hamashige
The National Parkinson Foundation recently awarded Giselle Petzinger, MD, assistant professor in the Department of Neurology at the Keck School of Medicine of USC, and Beth Fisher, PhD, associate professor in the Division Of Biokinesiology and Physical Therapy, a \$250,000 grant to further their research on the effect of exercise in Parkinson’s disease.

Petzinger and Fisher have been studying the effect of exercise on people with Parkinson’s disease for more than a decade. Their previous research has helped Parkinson’s experts understand that exercise is beneficial to Parkinson’s patients. And while there is now broad agreement that exercise helps Parkinson’s patients, it is not as clear what type of exercise is best for keeping the symptoms of Parkinson’s disease, particularly cognitive issues, at bay.

The next phase of their research is to help answer this particular question, evaluating which exercises most benefit people with early cognitive impairment from Parkinson’s. Over the next three years, this research study will recruit more than 150 individuals with Parkinson’s disease to participate in a 12-week exercise program.

Participants will be engaged in a skill-based exercise program, aerobic exercise, or a social contact group and will be examined for improved cognitive function through behavioral testing and functional brain imaging.

Parkinson’s disease is a chronic and degenerative disease that is associated with cognitive impairment, progressive loss of motor control, leading to movement and balance disorders, tremors, and difficulty walking.

Parkinson’s results from the loss of dopamine-producing nerve cells, critical modulators of cognitive and motor system circuits in the brain. It affects an estimated one million Americans and is the second most common neurodegenerative disease after Alzheimer’s disease.

Earlier published studies from Petzinger and Fisher showed that Parkinson’s patients who walked on treadmills at high intensity improves walking and balance when compared with patients who did less intensive exercises or none at all. They have also published a number of studies in animal models of Parkinson’s disease demonstrating the effects of exercise on neuroplasticity (brain change) at the molecular level.



IT’S ELEMENTARY — The “Molecular and Social Systems: Learning through Creative Exploration” exhibit opened July 12 at the Keck School of Medicine of USC’s Institute for Genetic Medicine, melding art, medicine and social activism that promotes physical and social healing. Above, a visitor examines “The Human Element” by physician and artist Lori Shocket. The exhibit runs through Oct. 26 at the IGM art gallery, 2250 Alcazar St, second floor.

Keck Medicine of USC scientists discover immune system component that resists sepsis in mice

By Alison Trinidad
Molecular microbiologists from the Keck School of Medicine of USC have discovered that mice lacking a specific component of the immune system are completely resistant to sepsis, a potentially fatal complication of infection. The discovery suggests that blocking this immune system component may help reduce inflammation in human autoimmune and hyper-inflammatory diseases such as rheumatoid arthritis and Type 2 diabetes.

The study was published online on June 23 in *The Journal of Experimental Medicine*, a leading peer-reviewed scientific journal in research medicine and immunology.

The immune system is the body’s first line of defense against infection. The system, however, can also injure the body if it is not turned off after the infection is destroyed, or if it is turned on when there is no infection at all. Scientists do not yet fully understand how the immune response is turned on and off and continue to study it in hopes of harnessing its power to cure disease.

In this study, scientists have found that a component of the system, HOIL-1L, is necessary for formation of the NLRP3-ASC inflammatory signaling complex.

“This regulatory mecha-

nism is critical in vivo, where we find that mice lacking HOIL-1L are completely resistant to sepsis, which is a lethal inflammation model of human sepsis,” said Mary Rodgers, PhD, USC postdoctoral fellow and the study’s first author. “Our results suggest that blocking the activity of HOIL-1L could be a new therapeutic strategy for reducing inflammation in disease.”

Led by Jae U. Jung, PhD, professor and chair of the Department of Molecular Microbiology and Immunology at the Keck School of Medicine

of USC, the research team included scientists from the University of North Carolina at Chapel Hill and Kyoto University in Japan. USC study co-authors also include James W. Bowman; Nicole Orazio, PhD; Mude Shi, PhD; Qiming Liang, PhD; Rina Amatya; and Thomas J. Kelly. The work was partly supported by the National Institutes of Health (1F32AI096698, CA180779, CA082057, CA31363, CA115284, AI073099, AI083025, HL110609, CA156330, AI029564), GRL, Hastings Foundation, and Fletcher Jones Foundation.

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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.

Calendar of Events

Tuesday, July 29

8 a.m. The 2014 Roxanna Todd Hodges Lecture in Stroke Prevention and Education. “Controversies in Penumbral Imaging,” Gregory Albers, Stanford University Medical Center. Zilkha Neuroscience Institute 1st Floor Conference Room. Info: (323) 442-7687

Noon. Medical Education Seminar. “Create an Online Explainer Video with iPad,” Dixie Fisher and Win May, USC. NML West Conference Room. Info and RSVP: Cris Argosino, (323) 442-2746, argosino@usc.edu, keckdev1.usc.edu/meded/index.cfm

Wednesday, July 30

Noon. Medical Education Seminar. “Creating Teaching Modules Using Zaption & Powerpoint,” Tatum Korin and Lynn Kysh, USC. NML Computer Classroom 204. Info and RSVP: Cris Argosino, (323) 442-2746, argosino@usc.edu, keckdev1.usc.edu/meded/index.cfm

Thursday, July 31

Noon. Medical Education Seminar. “Engaging Learners in a Large Group Setting,” Chachi Fung and Jane Rosenthal, USC. NML West Conference Room. Info and RSVP: Cris Argosino, (323) 442-2746, argosino@usc.edu, keckdev1.usc.edu/meded/index.cfm

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

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