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The Weekly

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USC luminaries celebrate hospital acquisition

By Sara Reeve

Members of the USC Board of Trustees and Keck School of Medicine Board of Overseers gathered on April 15 along with university officers, hospital executives, clinical leaders and friends to celebrate the University's acquisition of USC University Hospital and USC Norris Cancer Hospital. USC Executive Vice President and Provost C.L. Max Nikias welcomed the crowd of invited guests that included Board of Trustees Chairman Edward Roski, Past Chairman Stanley Gold and City of Los Angeles Councilmember Jose Huizar.

"This is a great time for everyone associated with these two hospitals, and for the entire Trojan Family," Nikias told the audience of more than 120 guests who were gathered in front of USC University Hospital. "We have an extraordinary opportunity to advance the future of research, teaching and patient care here at USC. We also have an unprecedented opportunity to enhance the health and well being of all of the residents of Los Angeles."

Huizar told the audience that, having grown up in the area around USC, he appreciates the university's investment in the community. "USC is a valued partner that provides necessary education, information and support to the local community, and so I felt that it was important to be here today to support these acquisitions," he said.

Nikias invited Roski, Gold, Huizar, Kathryn Sample, wife of USC President Steven B. Sample, and USC University Hospital and USC Norris Cancer Hospital CEO Mitch Creem to ceremoniously pull a cord to unveil a banner designating the USC Academic Medical Center. As the banner was revealed, 100 doves were released into the air to symbolize hope for the patients served.

Guests then enjoyed a festive outdoor luncheon during which CEO Creem outlined his plans for the hospitals, which include hiring more physicians, nurses, technicians and aides. But he emphasized that his vision goes beyond the financial and technological improvements in store for the facilities.

"Being an academic medical center is more than just new equipment and new information systems," Creem said. "It is about creating a sense of hope, hope that miracles can happen and that they can happen here with our new treatments and our new cures. It's about giving you all a feeling that, no matter how desperate things feel at times, you have a place to go with people who care."

Creem's remarks included a two-minute inspirational video illustrating the commitment of USC's medical community to the pursuit of excellence in research and patient care.

Carmen A. Puliafito, dean of the Keck School of Medicine dean, commented

See VIP, page 2

Veronica Jauriqui

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Members of the USC Board of Trustees and Keck School of Medicine Board of Overseers were welcomed by the Trojan Marching Band (above) as they celebrated with university officers, hospital executives, clinical leaders and friends the acquisition of USC University Hospital and USC Norris Cancer Hospital at a luncheon on April 15.

At right, (from left) Board of Trustees Chair Edward Roski, USC hospitals CEO Mitch Creem, Keck School Dean Carmen A. Puliafito and USC Executive Vice President and Provost C.L. Max Nikias gather to honor what Nikias called "an extraordinary opportunity to advance the future of research, teaching and patient care here at USC."

Study shows small dietary changes may improve diabetes risk in Latino teens

By Meghan Lewit

Reducing sugar intake by the equivalent of one can of soda per day and increasing fiber intake by the amount equivalent to one half cup of beans per day appears to improve risk factors associated with type 2 diabetes in Latino adolescents, according to researchers at the Keck School of Medicine.

The report appears in the April issue of *Archives of Pediatrics & Adolescent Medicine*, one of the *JAMA/Archives* journals.

Almost 40 percent of Mexican American adolescents age 12 to 19 were overweight or at risk for overweight from 2003 to 2006, according to background information in the article. "Latino children are more insulin resistant and thus more likely to develop obesity-related chronic diseases than their white counterparts," the authors wrote. "To date, only a few studies have examined the effects of a high-fiber, low-sugar diet on metabolic health in overweight youth, and to our knowledge, none have tested the effects of this type of intervention in a mixed-sex group of Latino youth."

Emily Ventura, of the Keck School of Medicine, and colleagues conducted a 16-week study to examine if reductions in added sugar intake or increases in fiber intake would affect risk factors for developing type 2 diabetes in 54 overweight Latino adolescents (average age 15.5). Participants were split into three groups: control, nutrition (receiving one nutrition class per week) or nutrition plus strength training (receiving one nutrition class per week along with strength training twice a week).

Fifty-five percent of participants decreased their sugar intake by an average of 47 grams per day (equal to the sugar in one can of soda) and 59 percent increased their fiber intake by an average of 5 grams per day (equal to the fiber in a half cup of beans) across all intervention groups, including controls.

Participants who decreased their sugar intake had an average 33 percent decrease in insulin secretion and those who increased their fiber intake had an average 10 percent reduction in volume of visceral adipose tissue— fat surrounding the internal organs. "A reduction in visceral fat indicates a reduction in risk for type 2 diabetes, considering that to a greater degree than total body fat, visceral fat has been shown to be negatively associated with insulin sensitivity," the authors noted.

"Those who increased fiber intake had a significant reduction in body mass index (-2 percent vs. 2 percent) and visceral adipose tissue (-10 percent vs. no change) compared with those who decreased fiber intake," the authors wrote.

"This study shows that when overweight teenagers make small simple changes in dietary intake they can lead to meaningful effects on optimizing metabolic state that reduces risk of type 2 diabetes," said Principal Investigator Michael I. Goran, professor of preventive medicine, physiology and biophysics and pediatrics, and director of the USC Childhood Obesity Research Center at the Keck School of Medicine.

USC researchers pinpoint gene key to lupus development

The study's results open up "a whole new chapter, not only in our understanding of lupus, but also undoubtedly in the development of new therapies for both the treatment and prevention of the disease."

— Chaim O. Jacob, associate professor in the Department of Medicine at the Keck School of Medicine

By Sara Reeve

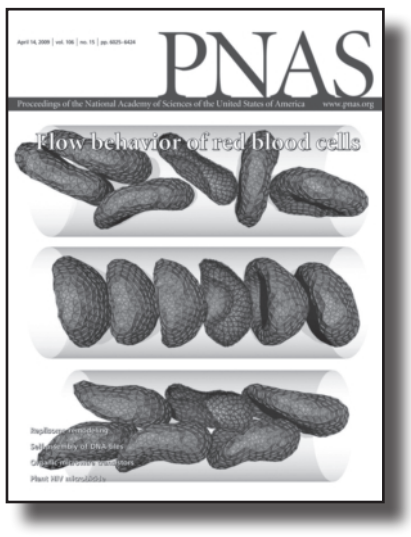
A study led by USC researchers has identified a specific gene—IRAK1—as playing a critical role in the development of systemic lupus erythematosus. The results were published April 14 in the *Procedures of the National Academy of Sciences*. This publication is one of three new papers that the USC Lupus Genetic Group is publishing in a short span of time in which application of the "Function2Gene" methodology have resulted in identifying several new genes, involved in lupus.

Systemic lupus erythematosus (SLE or lupus) is an autoimmune disease that can affect various parts of the body, including the skin, joints, heart, lungs, blood, kidneys and brain, and causing inflammation, swelling, pain and damage.

"Lupus is a relatively rare systemic autoimmune disease affecting an estimated 0.1 percent of the general population, but to those afflicted, it is a devastating and even life-threatening condition," said lead author Chaim O. Jacob, associate professor in the Department of Medicine at the Keck School of Medicine. "Because it usually attacks young women—nine-to-one predilection of females to males—in the prime of life, physicians have urgently sought both a cause and a cure for this condition."

The study examined a group of 769 patients with childhood-onset lupus, 5,337 adult-onset lupus patients and 5,317 healthy controls. Childhood-onset SLE constituted an important subgroup for genetic analysis as the researchers believed these patients may have a higher genetic load, which would facilitate gene discovery.

Jacob and his team located the IRAK1 gene on the X chromosome and determined that it has extensive involvement in the regulation of the immune response. Locating IRAK1 on the X chromosome could point to why lupus overwhelmingly affects females. Previous research focused on hormonal differences between males and females as a cause of the gender difference.



The study suggests an important role for IRAK1 at two key checkpoints in lupus development. The first step leads to benign serological and cellular autoreactivity, while the second step leads to pathological autoimmunity.

"Such information opens up a whole new chapter, not only in our understanding of lupus, but also undoubtedly in the development of new therapies for both the treatment and prevention of the disease," said Jacob.

The identification of the IRAK1 gene came as a result of the new methodological approach termed "Function2Gene," which was devised by Jacob and his team, Raphael Zidovetzki, and Don Armstrong. This approach looks at what is functionally known about the disease and progresses from potential function to genes, in contrast to the conventional method, which identifies genes and then characterizes their potential function in a disease.

The identification of IRAK1 coincides with two additional studies, also led by Jacob and his team, that recognize roles of several genes in the progression and development of lupus. The studies, published in the journals *Arthritis & Rheumatism* (April 2009) and *Genes & Immunity* (May 2009), both confirmed the crucial role of certain previously known genes in SLE development, as well as identified several novel genes not previously reported.

The new Function-2Gene approach may have a major impact on how researchers go about discovering the multiple genetic variations that commonly underlie inherited diseases. The Function2Gene approach has the benefit of being more productive than traditional methods, and is also less costly.

According to Jacob, this approach may be very valuable to researchers studying other genetic diseases. "This may be my and my colleagues' greatest contribution," he said. "This method is ideally suited to unraveling the genetic aspects of such common disorders as diabetes, hypertension, atherosclerosis, cancer and other diseases." Jacob and his team have made the Function2Gene software available free of charge to the scientific community so that it may be applied to other complex

USC study examines links between obesity and adolescents' social networks

By Katie Neith

Researchers from the Institute of Prevention Research at the Keck School of Medicine have found a link between obesity and social networks among adolescents. In fact, overweight youth were twice as likely to have overweight friends.

"Although this finding was expected, it was surprising how strong the peer effect is and how early in life it starts," said lead author Thomas Valente, professor of preventive medicine at the Keck School.

Previous data had shown a connection between overweight adults and their social peers, but the study used more advanced statistical modeling techniques than previous research and the association remained strong, Valente said.

In-school surveys were conducted among 617 students ages 11-13. In addition to finding that overweight adolescents were more likely to have overweight friends than their normal-weight peers, the researchers also found that overweight girls were more likely to name more friends, but less likely to be named as a friend than normal-weight girls.

"This suggests marginalization," Valente said, "and a call to develop interventions that take peer constructs into account."

For parents, he said this means being conscious of potential social consequences that their children may suffer as a result of being overweight.

"We tend to focus on health consequences when talking about weight in adolescents, but being popular resonates much more," said Valente.

He said more study is needed on the relationship between being overweight and social status among adolescents.

VIPS: Celebration touts 'great medical center' and 'great doctors'

Continued from page 1

on what the purchase of the hospitals means to the school, its faculty and students. Before the acquisition, he said, "we were missing a connection to the principle of caring for patients before caring about the bottom line. USC is designed to create new knowledge, to train doctors and students, and to provide care to the community. This acquisition will allow us to put patients above profits and provide first-rate care for our community."

Vaughn Starnes, surgeon-in-chief for USC University Hospital and USC Norris Cancer Hospital, concluded the program, commenting that while many patients today find themselves at the hospitals because they have followed a particular doctor, in the future "people will come here because it is a great medical center, with the expectation that they will find great doctors," he said.

The Weekly

Next Issue: April 24

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CIRM to host Town Forum meeting

The California Institute for Regenerative Medicine (CIRM), will host a Town Forum meeting in Los Angeles on April 22 at the Davidson Conference Center.

The event, which will be from 6:30 p.m. to 8 p.m., will feature remarks from USC's Martin Pera, professor and founding director of the Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research.

The Town Forums offer an opportunity for individuals to learn how CIRM is investing Proposition 71 funds to improve human health and about advances in stem cell science from some of the most distinguished researchers in the field.

The forum features three CIRM-funded speakers—Pera, UCLA microbiologist Donald Kohn and UCI neuroscientist Leslie Michels—who will speak briefly on a particular topic, followed by a question-and-answer period.

The event is free and open to the public. Seating is limited.

To reserve a seat, e-mail name and contact information to: pace2curesLA@cirm.ca.gov

Study reveals gene's impact on lung function

USC researchers have found a tiny variation within a single gene can determine not only how quickly and well lungs grow and function in children and adolescents, but also how susceptible those children will be to exposure to passive tobacco smoke, even in utero.

"Many factors can affect lung function and growth, including genetic variation and environmental exposures such as tobacco smoke and air pollutants," said Carrie Breton, lead author of the study and research associate, Keck School Department of Occupational and Environmental Health.

"We wanted to determine whether specific gene variations would have measurable and predictable effects on lung function growth and susceptibility to environmental insults," she said.

The researchers looked at a class of genes known to be involved in antioxidant defense, the glutathione S-transferase (GST) genes and found that variation in several of the GST genes was important. This was particularly true for children of mothers who had smoked during pregnancy.

The researchers analyzed eight years of lung function metrics and genotyping data from more than 2,100 children from two cohorts of fourth-graders. The lung function measurements used were maximal mid expiratory flow rate (MMEF), forced vital capacity (FVC) and forced expiratory volume in one second (FEV1).

"FEV1 is a measure of large airways, FVC of total lung volume and MMEF of smaller airways, so they measure slightly different things and we wouldn't necessarily expect to see all outcomes behaving the same," Breton said.

They found that for three of the specific haplotypes —patterns of genetic variation within genes—they investigated, each had a significant effect on lung function.

For one gene, GSTM2, two variant patterns were analyzed. These patterns occurred in 30-35 percent of the white population. One was found to promote stronger lung function, while the other variant was correlated with poorer lung function and greater susceptibility to damage caused by maternal cigarette smoking during pregnancy. Moreover, the reduction in lung function was greater in children who had two copies of the variant pattern that reduced lung function, compared to children with only one copy.

For a relatively rarer haplotype in GSTM3, occurring in only 6-8 percent of the white population, they found a strong negative effect on MMEF.

Finally, another haplotype in GSTM4, occurring in 16-22 percent of the population, showed significantly decreased rates of growth for FEV1, FVC and MMEF. Like GSTM2, the reduction in lung function was greatest in children who had two copies of the variant pattern that reduced lung function.

The researchers suggest that the gene variants may not alter the development of the lung, but its ability to defend itself against damage caused by free radicals.

"The GST genes are important to the detoxification of reactive oxygen species, including carcinogens and environmental exposures, such as cigarette smoke. We speculate that the patterns of genetic variation we investigated may alter this process, thereby reducing the lung's ability to detoxify harmful agents and causing a cascade of other events that promote inflammation, bronchial constriction, airway hyper responsiveness and asthma-like symptoms," Breton said.

She added, "The next step would be to investigate how these genes interact with one another to jointly affect lung development. Future studies should also investigate the timing and quantity of tobacco smoke exposure during pregnancy in combination with variation in these genes to further understand how they jointly affect fetal lung development."

"We wanted to determine whether specific gene variations would have measurable and predictable effects on lung function growth and susceptibility to environmental insults."

—Carrie Breton, research associate, Keck School Department of Occupational and Environmental Health

USC neurologist sheds light on rare condition on "The Today Show"

A little-known, painful condition called cervical dystonia received national attention on April 3 when Mark F. Lew, professor of clinical neurology, appeared as a guest on NBC's "The Today Show."

USC neurologist Mark Lew discusses cervical dystonia on "The Today Show."

Lew, along with his patient, Rogers Hartmann, was interviewed by co-host Meredith Viera about the condition. Also known as spasmodic tortocollis, cervical dystonia causes muscles in the head and neck to twist abnormally.

Those who suffer from the condition bend at the neck, to the side, back or front, making everyday actions including walking and taking a drink nearly impossible. A video of Hartmann detailed her struggle to live a normal life.

Hartmann noted that she went to five doctors before she found Lew. "A lot of doctors are not as educated as Dr. Lew," she said.

Lew said that between 300,000 to 400,000 people in North America suffer from cervical dystonia. He also discussed signs, symptoms and treatment for the condition, which includes Botox injections in the neck area every three months.

Lew noted that most patients' symptoms level off in a couple of years.

Lew is internationally known for treatment of dystonia, Parkinson's disease and other movement disorders. To view Lew's appearance, visit www.usc.edu/hsc/info/pr/video/todayshow2.mp4.

Neurology symposium to honor Valerie Askanas, W. King Engel

The Keck School of Medicine Department of Neurology and the Office of Continuing Education will host the USC International Neuromuscular Symposium on April 25 in honor of Valerie Askanas and W. King Engel.

Askanas is professor of neurology and pathology at the Keck School of Medicine and the co-director of the USC Neuromuscular Center. Engel is professor of neurology and pathology at the Keck School and the director of the USC Neuromuscular Center.

The symposium will provide the newest information available on diagnosis and treatment of neuromuscular diseases. Lectures will cover a broad spectrum of neuromuscular diseases encompassing the entire motor unit, including myopathies, peripheral neuropathies and amyotrophic lateral sclerosis.

The topics on the symposium program will be presented by renowned experts in their respective fields from around the world, all of whom are former trainees of either Askanas or Engel.

In addition, Askanas will present her groundbreaking research on inclusion-body myositis, and Engel will lecture on the treatment of previously "untreatable" neuromuscular diseases.

The daylong event will be at the The Sofitel Hotel, 8555 Beverly Boulevard, Los Angeles.

To view the entire program and the faculty list, and to register online, visit http://tinyurl.com/csp6ug.

For additional information, or to register by telephone, call (323) 442-2555 or (800) USC-1119.

The Weekly NEWSMAKERS

Complete listing at:
ww.usc.edu/uscnews/usc_in_the_news

On April 14, KCBS-TV interviewed internist **Michael Karp** about pharmacy errors and what physicians can do to prevent them.

An April 10 ***Baltimore Sun*** article quoted cardiologist **Robert Kloner** about the potential of erectile dysfunction as a predictor of future heart problems.

An April 10 ***San Francisco Chronicle*** article reported that USC was awarded $200,000 by the William Randolph Hearst Foundation and the Hearst Foundation Inc. to support research efforts at the Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC.

An April 8 ***Los Angeles Business Journal*** article noted that USC Vice Provost **Mitch Creem** took the position of chief executive of USC University Hospital and USC Norris Cancer Hospital after Tenet Healthcare Corp. completed their sale to the university. Creem was recruited in June 2008 to help USC negotiate the sale and ensure a smooth transition, the story reported.

An April 7 ***Los Angeles Times*** article highlighted a study led by obesity expert **Michael Goran**, which showed that by slightly reducing sugar and increasing fiber, Latino teenagers may lessen some risk factors linked with Type 2 diabetes. A widely carried Reuters article and United Press International article also highlighted the research.

An April 6 ***Los Angeles Times*** article noted that Childrens Hospital Los Angeles pediatrician **Linda Randolph** and pediatric neurologist **Tena Rosser** were available to answer reader questions about a medical condition called neurofibromatosis. The article is a follow-up piece for a series on patient Ana Rodarte, who underwent a series of surgeries to reconstruct her face, which had been severely disfigured by the condition.

An April 6 ***McClatchy Newspapers*** article featured research by **Parish Sedghizadeh** of the USC School of Dentistry about osteonecrosis of the jaw.

Calendar of Events

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

Friday, April 17

8 a.m. CHLA Grand Rounds. "Challenges of Protecting Children: It's not all 'Law and Order' and 'CSI,'" Karen Kay, USC/CHLA. CHLA Saban Research Auditorium. Info: (323) 361-2935

11 a.m. Hematology Grand Rounds. "Diagnosis and Treatment of Gaucher Disease," John Barranger, USC. IPT C2J103. Info: (323) 865-3950

Noon. "Case Presentations," Yi Zheng, USC. OPT A5C129. Info: (323) 409-7995

Monday, April 20

Noon. "NEPHSAP: Transplant," Yasir Qazi, USC. GNH 4420. Info: (323) 226-7307

Noon. "Case Presentations," Shahrooz Bemanian, USC. D&T B-3B 105. Info: (323) 409-7995

Tuesday, April 21

9 a.m. Neurology Grand Rounds. "Chronic Daily Headaches: A Headache for the Clinician Too?" Soma Sahai, USC. ZNI 112. Info: (323) 442-7686

Noon. Cancer Ctr. Grand Rounds. "Too Many Coactivators! Can We Make Sense of Their Roles in Steroid Hormone Action and Breast Cancer?" Michael Stallcup, USC. NOR 7409. Info: (323) 865-0801

Wednesday, April 22

4 p.m. USC Ctr. For Excellence in Research. "Cellular Imaging Methods in Basic Research," Susan Forsburg, USC. UPC: CUB 329. Info: (213) 740-6709

Friday, April 24

8 a.m. Pathology and Laboratory Medicine Grand Rounds. "Diffuse Aggressive B-cell Lymphomas," Jonathan Said, UCLA. NOR 7409. Info: (323) 442-1180

8 a.m. CHLA Grand Rounds. "The Child is the 'Sentinel Species' for Good or Bad Environments: How the 'Built' Environment Shapes Children and their Health," Richard Jackson, UCLA. CHLA Saban Research Auditorium. Info: (323) 361-2935

Noon. "Case Presentations," Victor Yu, USC. OPT A5C129. Info: (323) 409-7995

Monday, April 27

Noon. "NEPHSAP: End-stage Renal Disease and Dialysis (2008)," Hosameldin Madkour, USC. GNH 4420. Info: (323) 226-7307

Tuesday, April 28

10 a.m. American Cancer Society National Multicultural Cancer Awareness Week African American Health Forum. "Our Voice, Our Choice: Making Changes for a Healthy Future in the African American Community," Various speakers. Westin Los Angeles Airport Hotel. Info: (800) 422-6237

Wednesday, April 29

Noon. Eric Cohen Student Health Clinic Monthly Wellness Seminar. "Trojans Care 4 Trojans," Lynette Merriman, USC. NML Conf. Rm. West. Info: (323) 442-5631

Noon. ZNI Seminar Series. "Emergence of Synaptic Specificity in the Mouse Cerebellum," Peter Sheiffele, Univ. of Basel. ZNI 112. Info: (323) 442-2144

Noon. "Renal Biopsy," Michael Koss and Vito Campese, USC. GNH 4420. Info: (323) 226-7307

1 p.m. "Head & Neck Cancer Awareness," Tom Labonge, LA Councilmember, and Chief William Bratton, LA Police Dept. HNRT Level G, Rm. 503. Info: (323) 442-7808

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 HSC Weekly, KAM 400 or fax to (323) 442-2832, or e-mail 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.

Photos/Jon Nalick

NET PROFITS—Alpha Iota Pi, the co-ed fraternity at the USC School of Pharmacy, hosted "Hoops 4 Charity" on April 9. Left, Pharm.D. student Michael Wu sinks a basket during a free-throw competition. Above, Wu takes over as event announcer as Erin Matsushita, also a Pharm.D. student, reacts to missing a shot of her own.

Pharm.D. student Dan Trinh won the competition and its top prize—$1,000 for the charity of his choice, the Susan G. Komen for the Cure, which supports breast cancer research.

HSC Earth Day Fair slated for April 23

By Ina Fried

USC's Health Sciences Campus will celebrate a commitment to responsible, sustainable consumption with activities in Harry and Celesta Pappas Quad on April 23, during Earth Week.

During an Earth Day Fair, 11 a.m. to 1 p.m., USC contract vendors will display products for labs and offices and will explain their sustainable practices.

Faculty, staff and students are encouraged to become a part of the day's event. Free "green" bags and other giveaways will be available for those who pledge out loud to follow some sustainable practice, such as recycling bottles and cans, replacing incandescent light bulbs with compact fluorescent bulbs or taking shorter showers.

E-waste recycling containers will be placed in the quad for depositing electronic waste throughout the day.

Matthew Oden, manager of USC's Sustainability Program, said that USC Earth Week 2009 resulted from many "student, staff and faculty groups really stepping up to create events and competitions that allow for engagement with our larger community and a chance to significantly reduce our environmental impact during Earth Week."

He added that he hoped the event would offer new opportunities for "members of the Trojan Family and the surrounding community to become fully engaged in helping to find the solutions we will need in our journey to sustainability."

Oden recently joined USC after earning a master's degree in environmental management from Yale University, working with Al Gore's The Climate Project and serving as an energy adviser to the United Nations.

For more information about university-wide Earth Week activities, see http://sustainability.usc.

In Case of An Emergency...

Call the Emergency Information Phone: 213-740-9233 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.

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