

## USC researchers find green tea negates effects of specific cancer drug

By Katie Neith

USC researchers have found a surprising side effect of using green tea for a certain population. In people being treated with Velcade (bortezomib) for multiple myeloma and mantle cell lymphoma, the herbal supplement is likely to make the drug completely ineffective in treating cancer.

The study, which found that a component of green tea extract (GTE) called EGCG destroys any anticancer activity of Velcade in tumor-bearing mice, will be published in a future print edition of the journal *Blood*. It is available online now at the journal's pre-publication First Edition Web site (Feb. 3 section) at <http://bloodjournal.hematologylibrary.org>. The findings have already prompted national media attention.

"Our hypothesis was that GTE or EGCG would enhance the anti-tumor effects of Velcade, and that a combination of GTE with Velcade (or EGCG with Velcade) would turn out to be a superior cancer treatment as compared to treatment with Velcade alone," said lead author Axel H. Schönthal, associate professor in the Department of Microbiology and Immunology at the Keck School of Medicine. "Our finding that GTE or EGCG blocked the therapeutic action of Velcade was completely unexpected."

The study was an interdisciplinary effort including Thomas Chen, from the Department of Neurosurgery at the Keck School of Medicine; Stan Louie, from the Department of Clinical Pharmacy and Pharmaceutical Economics and Policy at the USC School of Pharmacy; and Nicos Petasis, from the Department of Chemistry at the USC College of Letters, Arts and Sciences.

Using preclinical models and tumor-bearing mice, the researchers found that the unusually effective blockage of Velcade's therapeutic activity was based on the chemical interaction between molecules. The EGCG molecule and the Velcade molecule were able to form chemical bonds with each other, meaning that the Velcade molecule could no longer bind to its intended target inside the tumor cells.

Clinical trials to verify these results in humans would be considered highly unethical due to the predictably unfavorable outcome. Nevertheless, the researchers expect the results of the study to be applicable to cancer patients.

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## Keck dinner focuses on clinician-scientist mentoring

By Jane Brust

Individuals trained in both medicine and science are uniquely positioned to advance medicine, said Tom Buchanan, associate dean for clinical research, in his greeting to more than 65 Keck School of Medicine faculty and students at the Clinician-Scientist Mentoring Dinner held Jan. 27 at USC's University Park Campus.

"Scientific training can create better physicians, and research improves both the practice of medicine and the prevention of disease," Buchanan said to the students in the audience. "I want to encourage you to continue your pursuit of excellence in medicine by developing translational research opportunities while here at the Keck School and throughout your careers."

Such encouragement was the theme of the evening hosted by Keck School Dean Carmen A. Puliafito and organized by Buchanan and Keck's Vice Dean for Research



Featured speaker Neil Kaplowitz discusses research with student Kevin Waters.

Elizabeth Fini. Puliafito told the gathering, "The quality and character of our clinician-scientists make for a wonderful environment. We want to remind you to never give up on research, as it will enrich your careers, help your patients and advance medicine."

Featured speaker Neil Kaplowitz, director of USC Research Center for Liver Diseases, echoed the encouragement during his talk titled, "A Plumber Finds Happiness in the Liver."

Kaplowitz, who worked his way through high school and college as a plumber, has made pioneering contributions to the field of research involving liver disease. Among his accomplishments, he has published more than 175 peer-reviewed scientific articles and has edited nine books related to liver disease. But, he says, the contribution of which he is most proud is the men-

toring of young scientists for over 25 years, many of whom now hold prominent positions in research in this country and abroad.

"What makes me tick is the ability to advance clinical care through scientific research," Kaplowitz said. "I was fortunate to have a mentor in the 1960s who was an M.D./Ph.D., which was unique at that time." Kaplowitz explained that his mentor was focused on the liver, and his

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## Alzheimer Disease Research Center marks 25 years

By Carrie St. Michel

For 25 years, the USC Alzheimer Disease Research Center (USC-ADRC) has been a leader in the treatment and diagnosis of Alzheimer disease. "We can offer the best, most accurate diagnosis, comprehensive care plans, and access to leading-edge clinical trials," said Helena C. Chui, director of the USC-ADRC and chair, Department of Neurology, at the Keck School of Medicine.

The USC-ADRC's roots reach back to 1984, when it became one of the first centers established by the National Institute of Aging (NIA) specifically for the purpose of better understanding Alzheimer disease; today, there are 32 such centers nationwide.

Chui, who is recognized internationally for her pioneering research and clinical work related to Alzheimer disease and ischemic vascular dementia, has headed the USC-ADRC since 2003, but her affiliation with USC dates back to 1981, when she joined the Keck School as a faculty member.

Under Chui's guidance, a multi-disciplinary team of USC physicians, research scientists and social workers provides evaluations, diagnoses, treatment recommendations, referrals to caregiver services and support groups, and the opportunity to participate in clinical trials of potentially breakthrough therapies. Chui notes that the USC-ADRC has forged a national leadership position on the clinical-trial front.

"Dr. Lon Schneider, who's the director of our Clinical Core, has served as co-principal investigator on several of



Helena Chui, director of USC's Alzheimer Disease Research Center, counsels a patient.

the most promising clinical trials," said Chui. These studies have explored the impact on Alzheimer disease of a variety of substances, including estrogen, vitamin E, melatonin, and an experimental drug—called Flurizan—that

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## ADRC: 25 years of research and patient care

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may slow the disease's progression during its early stages. The USC-ADRC is currently in the recruitment phase of what will be an 18-month study focusing on a drug designed to block production of beta amyloid in the brain. Beta amyloid buildup is considered a hallmark of Alzheimer disease.

Schneider, who is known worldwide for helming Alzheimer-centered clinical trials, points out a research priority. "The first, most obvious therapeutic goal is to delay onset of the illness," he said. "If you delay it even by five years, you cut in half the prevalence of the disease and the number of people in nursing homes."

For her part, Chui has grown increasingly optimistic in recent years. "There are mouse models of Alzheimer disease and we can cure those," she explained. "We now have therapies that can prevent the development of Alzheimer disease in these engineered mice, so I think it's just a matter of time before we can translate this into therapies for patients."

In the meantime, Chui takes pride in the elements that set the USC-ADRC apart from similar organizations.

"One element that sets us apart is the comprehensive nature of our evaluations that not only include a memory assessment, medical history, state-of-the-art tests and diagnosis, but also an assessment of family support and resources in the community," she said. "Then we meet with the patient and their loved ones for a family conference." According to Chui, the practice of encompassing the whole family into the treatment plan is one that helps to optimize care.

Tony Perone, whose wife of 40 years was diagnosed with Alzheimer disease in 2005, absolutely agrees. "From my first contact with the center, I knew these were people who truly care about you and what you're going through. While Wendy's condition can't be cured," he noted, "the center helps give your loved one the best quality of life possible. Not only do Dr. Chui and her staff have extraordinary clinical expertise, but they also are so compassionate."

For more information about the USC-ADRC call (323) 442-7600 or visit [www.usc.edu/adrc](http://www.usc.edu/adrc).

**FIGHTING AIDS IN AFRICA** – Keck School of Medicine alumna Ava Avalos ('00) returned to the Keck School on Jan. 28 to discuss with current students and faculty, "Fighting AIDS in Africa, the Botswana Anti-viral Treatment Program." Avalos, who serves as a technical advisor to the Botswana Ministry of Health, described her experiences in Africa and encouraged students and physicians to consider research opportunities abroad.



Jon Nalick

## Pharmacy student receives honor for community service

By Elizabeth Chapman

Bonnie Hui, a student in the Pharm.D. program at the USC School of Pharmacy, has won the Pharmacy Times/Wal-Mart RESPy award.

Nominations for the national competition are based on a pharmacy student's dedication to community service. A panel of judges chose Hui as a 2008 winner for her demonstration of "commendable conduct and potential as a community pharmacist."

Hui coordinates and participates in numerous health fairs throughout the Los Angeles area, including the St. Francis Back to School Health Fair, the L.A. Tofu Festival Health Fair and the El Monte Health Fair.

Along with fellow USC Pharmacy students, Hui performs diabetes, cholesterol and osteoporosis screenings and immunizations. She also educates local communities about important health issues.

Last summer, Hui volunteered at a rural hospital in Ghana as part of the International Pharmaceutical Students Federation Exchange Program. Participating in the Ghana Drug Safety Outreach Campaign, she helped educate residents about common diseases and the proper

use of drugs.

"My volunteer experience widened my scope of pharmacy," Hui said. "It helped me learn how to serve others first."

I am honored to receive the RESPy award because it motivates pharmacy students to look beyond the classroom and textbooks."

Hui uses media as a tool to promote the pharmacy profession and explain the expanding scope of its practice. She produced two short films for this purpose. The first, which won top honors at the Pharmacy Foundation of California Pharmacy Film Festival, demonstrates how medication errors can be prevented by checking labels.

She also produced a short commercial aimed at educating the public on proposed 2008 California budget cuts. The project

won first place in a contest sponsored by the California Democratic Party and was shown on television throughout California last summer.

After graduation, Hui plans to obtain a residency in community pharmacy or ambulatory care. She also is interested in international health care and continuing to advance the pharmacy profession through media.

As part of the award, Hui was featured in the December issue of *Pharmacy Times*.



Bonnie Hui, a student in the Pharm.D. program at the USC School of Pharmacy

Kukla Vera

## Acupuncture brings pain relief at Childrens Hospital

The Pain Management Clinic at Childrens Hospital Los Angeles is collaborating with Yo San University of Traditional Chinese Medicine of Los Angeles to create a pediatric acupuncture program to help children manage chronic pain.

The Pediatric Acupuncture Program, which began treating patients in January, uses an integrative approach that brings the benefits of traditional Chinese medicine (TCM) to children suffering from chronic pain.

"Current research indicates that acupuncture and TCM are beneficial in addressing many problems associated with both acute and chronic pain," said Jeffrey I. Gold, director of the Pediatric Pain Management Clinic, and assistant professor of clinical anesthesiology and pediatrics at the Keck School of Medicine.

"We are excited to bring acupuncture to the patients at Childrens Hospital Los Angeles," said Johnathan Heywood, Yo San University's president. "This is an extraordinary oppor-

tunity in integrative medicine that offers our students another layer of richness and opportunity in our unique program."

The Pediatric Pain Management Clinic currently offers the acupuncture treatments once a week, with plans to increase the frequency in the future. There also are plans to develop joint research projects and studies in integrative medicine, combining acupuncture with Western medicine in pediatric care and treatment.



## USC Norris to host cancer survivor conference

By Meghan Lewit

The Children's Cause for Cancer Advocacy (CCCA) will host its first Los Angeles-based conference for young adult survivors of childhood cancer on Saturday, Feb. 7, at the USC Norris Comprehensive Cancer Center. The program, titled Rise to Action—Los Angeles (RTA-LA), aims to help survivors and their families explore and understand topics relevant to their long-term health care and survivorship.

The daylong conference will feature interactive sessions on issues such as health insurance, fertility concerns, education, transitions and relationship challenges. Presenters will include survivors and parents, as well as childhood cancer experts and advocates.

David R. Freyer, visiting professor of clinical pediatrics at the Keck School of Medicine and Director of the LIFE Survivorship and Transition Program at Childrens Hospital Los Angeles, will moderate a panel discussion on late effects of cancer treatment and follow-up care. Karine Chung, assistant professor of reproductive endocrinology and infertility at the Keck School, will participate in a session on fertility challenges and treatments.

Because of advances in cancer research and treatment, approximately 80 percent of children who have cancer now survive to adulthood, Freyer said. The LIFE Survivorship and Transition Program at Childrens Hospital provides comprehensive long-term follow-up care to hundreds of survivors of pediatric cancer.

"As young cancer survivors mature into young adults, it is important to recognize that there are both medical

and social issues that require continued attention," he said. "There needs to be a coordinated transition from the child-centered to an adult-focused environment, so that their health care is both medically and developmentally appropriate."

There are nearly 300,000 childhood cancer survivors in the U.S. and research shows that as many as two-thirds of them are likely to experience at least one late effect—or adverse outcome—as a result of their cancer or treatment. Some may also face challenges that affect school, work, health and relationships throughout their lives.

CCCA is a national non-profit organization dedicated to representing the voices of pediatric patients, survivors and their families in public forums and debates regarding childhood cancer treatment and care. The organization aims to inspire and empower survivors to take action and equip them with the necessary tools to deal with these issues.

The conference is being presented in partnership with the USC Norris Comprehensive Cancer Center; the Childrens Center for Cancer and Blood Diseases at Childrens Hospital Los Angeles; City of Hope; the Leukemia and Lymphoma Society; the Ulman Cancer Fund for Young Adults; Vital Options; and the We Can Pediatric Brain Tumor Network.

The program runs from 9 a.m. to 7 p.m. at the Aresty Conference Center. For more information about RTA-LA, visit [www.childrenscause.org](http://www.childrenscause.org).



Keck School of Medicine Dean Carmen A. Puliafito enjoys a light moment with Carlos N. Pato, chair of the Department of Psychiatry and Behavioral Sciences at the Clinician-Scientist Mentoring Dinner.

Steve Cohn

## MENTOR: Faculty can offer opportunities

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plumbing instincts were aroused because of the unique dual blood supply with hepatic artery (hot water), portal vein (cold water) and bile duct (waste pipe).

Among the students in the audience was M.D./Ph.D. candidate Melissa Lechner, who believes in the value of a dedicated mentor. She encourages Keck School students and faculty to seek out mentoring relationships.

"Faculty members who wish to be involved with students can initiate a relationship by engaging students in discussion and by offering opportunities

for students to learn more about their professional activities," she said. "Faculty might offer shadowing or journal club activities that the students may attend. Additionally, faculty could exchange contact information with potential mentees and suggest that the student come by for an office visit to facilitate further discussion."

Lechner advises that the most important first steps for a faculty member interested in mentoring students are to begin a dialogue with students and to present oneself as willing to teach and share advice and experience, as time permits.

## TEA: Herbal remedy can disrupt chemotherapy

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"The most immediate conclusion from our study is the strong advice that patients undergoing cancer therapy with Velcade must avoid green tea, and in particular all of its concentrated products that are freely available from health food stores," said Schönthal. "It is important to spread this message to health care providers who administer Velcade to patients."

Herbal remedies, including green tea, have become a popular remedy for cancer

patients dealing with side effects of chemotherapy. However, these supplements are unregulated and, for most, their beneficial and/or detrimental effects have not been qualified through research.

Schönthal pointed out that for patients on Velcade, supplementing with green tea products should reduce the burden of harsh side effects—which might be attractive to the patient, but comes at a high cost.

"Essentially, in addition to not being

able to attack tumor cells, Velcade would be unable to cause side effects either," he said. "As a result, the patient would feel a lot better and conclude

that the consumption of GTE helped cope with side effects—while in reality, Velcade simply wasn't active in the first place."

The research findings are part of a larger project run by the team called "Yin-Yang" Properties of Green Tea Extract in Combination Cancer Chemotherapy: From Encouragingly Beneficial to Dangerously

Detrimental.

"Obviously, the combination of GTE or EGCG with Velcade is an example of 'dangerously detrimental,'" said Schönthal. "But we are also studying another well-established chemotherapeutic drug, where the inclusion of EGCG appears to yield an 'encouragingly beneficial' outcome, which is more in line with our original expectation that GTE should be beneficial, not detrimental."

The study was funded by the Multiple Myeloma Research Foundation.



Axel H. Schönthal, associate professor in the Department of Microbiology and Immunology

## Nominations open for staff achievement award

All members of the USC community are invited to submit nominations for the President's Award for Staff Achievement.

The award is presented annually to a current, full-time member of the staff who has made outstanding contributions to USC. The honor carries with it a \$2,000 award.

Nominees must have made an outstanding contribution toward enhancing the overall quality of university life for students, faculty, staff, alumni or members of the communi-

ty, and have contributed to positive morale and an enthusiastic Trojan spirit.

Nominees must be current, full-time staff members with a minimum of five years service.

Nominations should be sent to Michelle White, project specialist, at CUB Second Floor, MC 0704. The deadline for submission is Feb. 27.

The Award for Staff Achievement will be presented by President Sample at the 2009 Staff Recognition luncheon on April 22.

## In Case of An Emergency...

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.

Call the Emergency Information Phone: 213-740-9233

The emergency telephone system can handle 1,400 simultaneous calls. It also has a back up system on the East Coast.

# Calendar of Events

The HSC Calendar is online at [www.usc.edu/hscalendar](http://www.usc.edu/hscalendar)

## Saturday, Feb. 7

**9 A.M.** Rise to Action Los Angeles. A conference for young adult cancer survivors and their families. Various speakers. NOR Aresty Conference Ctr. Info: (240) 821-9412

## Monday, Feb. 9

**NOON.** "Renal Physiology (Potassium and Organic Acids Excretion)," Alicia McDonough, USC. GNH 4420. Info: (323) 226-7337

## Tuesday, Feb. 10

**9 A.M.** Neurology Grand Rounds. "Herpes Simplex Encephalitis," Richard Tenser, Pennsylvania State Univ. ZNI 112. Info: (323) 442-7686

## Wednesday, Feb. 11

**NOON.** "Sleep and fatigue in Residency Training," Joshua Sapkin, USC. GNH 4420. Info: (213) 226-7337

**4 P.M.** USC Ctr. for Excellence in Research. "Developing DoD Grant Applications," James Murday, USC. UPC: CUB 329. Info: (213) 740-6709

## Thursday, Feb. 12

**11:30 A.M.** "Nitric Oxide Keeps Us Healthy and Young," Louis Ignarro, UCLA. UPC: Andrus Gerontology Ctr. Info: (213) 740-1354

**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 [ebalauv@usc.edu](mailto:ebalauv@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.

## Friday, Feb. 14

**NOON.** "Antimicrobial Stewardship," Veena Venugopalan, USC. IPT Conference Rm. B. Info: (323) 226-7504

## Tuesday, Feb. 17

**11:15 A.M.** USC University Hospital Guild Speaker Series. "Living with Rheumatoid Arthritis and Other Arthritic Conditions," Glenn Ehresmann, USC. Norris Inpatient Tower: Hoffman Cafeteria Dining Rm. Info: (323) 254-0600

## Wednesday, Feb. 18

**NOON.** "Prostatic Cancer and Treatment," Eila Skinner, USC. GNH 4420. Info: (323) 226-7337

**NOON.** "Genetic Dissection of GSK-3 and ERK/MAPK Pathway Functions During Brain Development," William Snider, Univ. of North Carolina. ZNI 112. Info: (323) 442-3219

**3 P.M.** USC Ctr. for Excellence in Research. "Developing NIH Grant Applications," Steve Moldin, USC. UPC: CUB 329. Info: (213) 740-6709

## Thursday, Feb. 19

**11 A.M.** Molecular Imaging Seminar. "Bridging Mouse to Man with Molecular Imaging," Hossein Jadvar, USC. NOR 7409. Info: (323) 442-3858

**NOON.** "Medicine for the Soul," Donna Spruijt-Metz, USC. MCH 149. Info: (213) 740-8278

## Friday, Feb. 20

**8 A.M.** "The Many Faces of Dementia: Linking Research, Practice, and Prevention," Thomas Obisesan, Howard Univ. and Lynda Anderson, Ctr. for Disease Control, Atlanta. UPC: Davidson Conference Ctr. Info: (213) 821-5288

## Monday, Feb. 23

**NOON.** "MicroRNAs: Another Layer of Gene Expression Regulation," Marianthi Kiriakidou, Univ. of Pennsylvania. GNH 6441. Info: (323) 442-1946

**NOON.** "Disorders of Potassium Balance," Alan Yu, USC. GNH 4420. Info: (323) 226-7337

## Tuesday, Feb. 24

**4 P.M.** USC Ctr. for Excellence in Research. "Obtaining Foundation Funding," Linda Zukowski, USC. UPC: CUB 329. Info: (213) 740-6709



SPRING TRADITION—A Vietnamese Tet culture show at the Harry and Celesta Pappas Quad on Feb. 3 featured a traditional tieng sao thien thai dance, symbolizing the beauty of springtime.

Jon Nalick

## Sample to give address to faculty Feb. 10

USC President Steven B. Sample will present his annual address to the faculty on Tuesday, Feb. 10, in the Aresty Auditorium, Harlyne J. Norris Cancer Research Tower.

A reception will begin at 4 p.m., fol-

lowed by the address at 4:30 p.m.

Sample became the 10th president of USC in March 1991. He is the university's first holder of the Robert C. Packard President's Chair.

## New campus security measures are in effect

All USC staff and faculty at the Health Sciences Campus are required to wear an official USC identification badge, which includes the employee's name, picture and department. It provides for greater security of the campus facilities and improves the safety of the staff, students and authorized guests.

All photo identification badges should be worn in a visible manner on the front of the upper torso and show the front of the badge.

## HSC NEWSMAKERS

Complete listing at: [www.usc.edu/uscnews/usc\\_in\\_the\\_news/](http://www.usc.edu/uscnews/usc_in_the_news/)

A Feb. 2 *Los Angeles Times* article quoted pharmacologist **Roger Clemens** about crystalline fructose.

A Feb. 2 *Los Angeles Times* article quoted surgeon **John Gross** about sirtuins enzymes.

A Feb. 1 *The Scientist* article quoted stem cell expert **Martin Pera** about the industry growing up around embryonic stem cell research. Another article quoted nephrologist **Alan Yu** about the hepatitis C virus.

A Jan. 29 Associated Press article quoted OB/GYN

**Daniel Mishell** about pregnancies and fertility drugs.

A Jan. 29 Associated Press article quoted Childrens Hospital Los Angeles geneticist **Donald Kohn** about a genetic disorder called severe combined immunodeficiency.

A Jan. 28 *Los Angeles Times* article quoted environmental health researcher **Andrea Hricko** about public debate over a planned truck expressway in the Wilmington neighborhood of Los Angeles.

A Jan. 28 *U.S. News & World Report* article quoted

cardiologist **Robert Kloner** about erectile dysfunction and heart disease.

On Jan. 27, ABC's "World News Tonight" quoted fertility expert **Richard Paulson** about the rare birth of octuplets in California. Paulson was also quoted in *Time Magazine*, the Associated Press, the *Star Tribune*, *Guardian* (U.K.), *LiveScience*, *United Press International*, *Daily Mirror* (U.K.) *Daily Mail* (U.K.), *Express* (U.K.), *The Scotsman* (U.K.), *Times* (U.K.) and Los Angeles affiliate KABC-TV, and was interviewed by ABC News.

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