

Caltech336

T E S S M T W T E S S M T W

The campus community biweekly

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A reservist's life

Like most Caltech staff, Lisa Flexen spends most of her days deskbound. A member of the development staff, Flexen's responsibilities include database management and programming. One weekend a month, though, she does something that is, no doubt, completely different from what the average Caltech "grunt" does: loading and unloading cargo aircraft for the U.S. Air Force.

Not a typical activity for a single mother of two, but for Flexen it's a chance to do something completely different from her Caltech career. While her development job takes place indoors and is all cerebral, her Air Force job takes place outdoors and is all physical. One weekend each month Flexen reports for duty at March Air Reserve Base in Riverside where, as an "aerial porter," she and her colleagues load what civilians would refer to as humongous cargo planes, but which Air Force personnel know as C-17s and C-141s. Right now it's mostly supplies for the war in Iraq, everything "from Humvees and ambulances, to medical supplies and barrels of water," says Flexen.

Flexen is an Air Force veteran. After graduating from high school, she enlisted in the service for a four-year stint. At that point in her life, college wasn't on her radar, and the military seemed like a good alternative, a chance to learn a skill and see the world. She chose the Air Force because it seemed, she says, to be a little less male dominated than the other services. It turned out to be the right decision. "The Air Force is its own little world, reflecting, in many ways, the outside world, with just about every profession the outside world has," she says. "That's what interested me, because any job skills I acquired there could be carried over to my civilian life. In addition, the work hours were normal—nine-to-five—and there was opportunity for travel."

Flexen had a top-secret clearance and worked in missile defense; specifically, as an information management specialist for the Plans and Intelligence Division of the 91st Strategic Missile Wing, first in England for two years, which she liked a lot, then in Minot, North Dakota, which she didn't like. "Too cold!" she laughs.

Flexen left the Air Force in 1990, married (she's since divorced), had two children (today her daughter, Samantha, is 11; her son, Adam, is eight), and received her college degree from the University of

see Flexen, page 5



Lisa Flexen

Toward friendlier dams

Despite the adverse impacts of large-dam construction on ecosystems and human settlements, dams are here to stay. And more most likely will be built in the 21st century wherever there is a need to store water for irrigation, provide urban water supplies, and generate power. But societies and governments worldwide would do well to evaluate the consequences of dam construction as an integral part of the planning process, a leading Caltech authority writes in a new book.

The reason? Because hundreds of millions of people have been adversely affected by dams in the last century, says Caltech anthropologist Thayer Scudder in his new book, *The Future of Large Dams* (Earthscan, February 2005). Somewhere between 40 and 80 million people have been forcibly relocated by the flooding of land to create the reservoirs above the dams. Furthermore, even larger numbers of people have had their lives and livelihoods disrupted by the change of the river flow below dams.

According to Scudder, large dams are a "flawed yet still necessary development option." Flaws include both the shortcomings of the dam itself as well as ecological and social impacts. In terms of the former, Scudder says that dams on average become clogged with sediment at a rate of about 0.5 to 1 percent per year. And in terms of the latter, changing habitat caused by the flooding of land behind and below dams is certain to change the habits of nearby humans and animals alike—if not devastate both.

see Dams, page 6

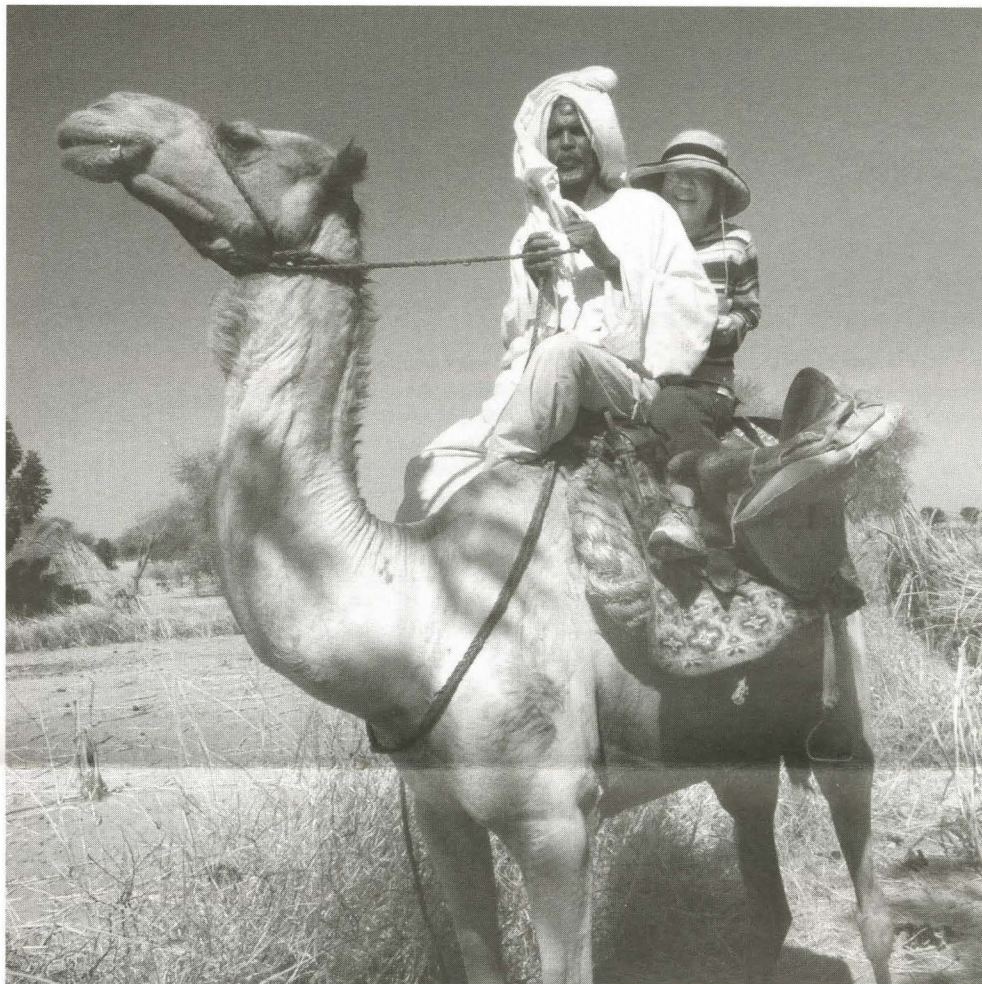
The gist of memory

Those of us old enough to remember the Kennedy assassination probably recall the initial announcement as if we heard it yesterday. But at the same time, it's likely we'll have no more recollection of extraneous details—what we were wearing, or what we were doing an hour before hearing the news—than we would for any other day in 1963.

In a new study, Caltech's Ralph Adolphs, a professor of psychology and neuroscience, explains how the brain retains the details and gist—the central meaning—of emotional events while forgetting the chaff. The key, Adolphs says, is an area of the brain known as the amygdala. He found that patients with damage to the amygdala are unable to remember the central meaning of an emotional stimulus, even though there is nothing otherwise faulty in their memory.

see Memory, page 6

The 'Road to Darfur'



Daryn Kobata (right), the editor of *Caltech 336*, is taking a leave of absence to work as a communications officer for an international humanitarian aid project in Darfur, Sudan.

"Four-wheel-drive vehicles compete for bumpy, rocky dirt roads with people in traditional Muslim garments riding donkeys. We get our water each day from boys with donkeys, and only have electricity a few evenings each week—the rest of the time we're on a generator."

This description of daily life was written by Daryn Kobata, editor of *336*, who has taken a temporary assignment as communications officer for an international humanitarian aid project in the war-torn region of Darfur, Sudan.

Kobata is on a leave of absence to work for the World Relief Darfur Relief Collaboration (DRC), a consortium of six relief and development agencies. They aim to provide food, water, and other help (in coordination with the United Nations) to villagers displaced by ongoing ethnic conflict.

World Relief DRC provides medical care, food, water wells, and latrines to people who live in refugee camps and outlying villages. Other goals include providing health education and training in building fuel-efficient stoves, and helping restock depleted seed supplies.

"Given the situation—an ethnic bush war in an area of Africa with almost no infrastructure—things could be better, but also could be worse," Kobata writes in an e-mail. "Since I landed in El Geneina (capital of West Darfur state) on February 14, things have been fairly calm. However, since the conflict's beginning almost two

years ago, close to 1.2 million people have fled their home areas, and of that number West Darfur has absorbed about 650,000. Small towns and villages that already struggle with lack of water, food, health care, and other resources have become overwhelmed. And when you have that many people concentrated in a small area with no sanitation facilities, you start seeing a lot of disease."

The political backdrop: Since early 2003, rebel groups have attacked Sudanese government military targets in the western region of Darfur, in northeast Africa. The rebels claim that the government favors Arab Muslims and oppresses non-Arab people, and existing ethnic tensions are heightened by disputes over land ownership and grazing rights.

As communications officer for the project, Kobata will report to project donors and the home office of World Relief, a Baltimore-based Christian relief organization. She also expects to be attending meetings with UN officials, other humanitarian agencies, and government representatives.

"While there's still a lot of need—and the UN is forecasting more food shortages in the coming months—we're also seeing good things happen. Things that seem very simple, like fixing broken water pumps, distributing seeds, or digging a latrine are making a big difference in helping people stay healthy and have enough to eat."

see Kobata, page 6

NewsBriefs



Novelist Walter Mosley paid a visit to Caltech's Beckman Auditorium on March 4 to present a talk entitled "The Literary Life." During his lecture, he offered the audience a peek into his life as a writer, one he called "an adventurous, exciting life." He described himself as very passionate about his art and, as he put it, "there's nothing I'd rather be doing more than writing." He is best known as the author of the Easy Rawlins series of detective novels, among them *Devil in a Blue Dress*, *Six Easy Pieces*, and his latest, *Little Scarlet*. Mosley, who depicts the African American experience through the eyes of ordinary men, also spoke of the importance of "bearing witness," and appealed to his audience "to tell one truth per day—large or small," as a means of improving the world. His first children's book, 47, will be published in April. Mosley's visit was sponsored by the Michelin Distinguished Visitors Lecture Series.

Personals

Welcome to Caltech

February

Guy Caldwell, design drafter, Architectural and Engineering Services; **Adrienne Driver**, postdoctoral scholar in biology; **Russel Oliver**, lab assistant, geological and planetary sciences; **Karthik Pandian**, scientific analysis associate, biology; **Andres Rodriguez**, visitor in physics; **William Sprockett**, general manager, Dining Services; **Patrick Vagner**, postdoctoral scholar in chemistry.

Deaths

Tom Perry, who joined Caltech in 1981 and worked for engineering and estimating until his retirement in 1998, died in early February as the result of a canoeing accident in Florida; he was 71. He taught canoeing, fly-fishing, and fly tying at Caltech and belonged to many related clubs and organizations on campus and in the community. He is survived by his daughter, Denise, of Hayden Lake, Idaho; his sons, Dalton, who is a maintenance supervisor for the Caltech Housing Office, and Damon, of Palos Verdes Estates, California; his brother, Carl, of Metairie, Louisiana; and many friends nationwide. A memorial service will be held on Saturday, April 2, at 10:00 a.m. at Our Savior Lutheran Church, 512 West Duarte Road, Arcadia, California. Tom's family invites his many friends and colleagues to attend, and Dalton Perry requests that those planning to do so please contact him at home, (626) 294-1912, as it would help the family with their planning.

James Wright, a former senior instrument specialist in the Division of Physics, Mathematics and Astronomy, died on May 8 in Covina, California; he was 87. A member of the Institute staff since 1963, he had retired in 1984.

Weekly Update returns

The Caltech Weekly Update, which is compiled from the Caltech Today website's announcements and featured events, will be coming to you from now on. The Update is designed to alert you to the latest events around campus, as well as current information from Human Resources and other offices that serve the Caltech community. It will be sent electronically or as a hard copy each Monday during the academic year to all staff, graduate students, and postdocs.

Calling all grads!

Graduating seniors, master's candidates and PhD candidates: Now's your chance to order those caps and gowns! The Caltech Bookstore's annual Grad Fair is the event you've been waiting for. You can choose a beautiful gown and top off the look with a jaunty mortarboard. Heck, why not pick out a class ring, register for a photo shoot, and select graduation announcements while you're at it? The event takes place right outside the Bookstore's doors on Monday, March 14, and begins at 3 p.m.

Sign-ups begin for Summer Camp 2005

Registration for the Child Educational Center's summer camp begins on March 19. Caltech community members may sign up their children entering grades one through seven for camp at the JPL or Caltech campus site. Documents to bring include emergency contact names and numbers and a tuition deposit of \$200. The program begins on June 20 and runs through August 25, and the days run from 7 a.m. to 6 p.m., Monday through Friday. For further information and for a registration form, call the CEC at (818) 354-3418.

Spring break offers more than fun

Virtually every year since 1996, the Caltech Y has sponsored an Alternative Spring Break (ASB) program for students as well as other members of the Caltech community. The goal is for students to venture beyond academic concerns in Pasadena and enjoy learning through direct experience in other places for a week, volunteering for a variety of service projects. ("Explore a new place, experience a new culture, serve a community, meet new friends and have fun," suggests the Caltech Y's website.)

"The first trip that we did was in Teesto, Arizona," says Athena Castro, executive director of the Caltech Y. Students worked at a community center on the Navajo reservation. "There had been programs during the Y's history where we took students to do community service in Tijuana and other places, but nothing comprehensive."

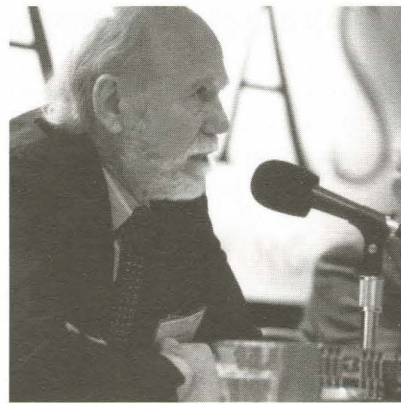
In later years, ASB travelled to such places as Tecolote, Mexico, and Bluff, Utah. Locations are typically chosen using various criteria. Castro explains that the selected sites address a combination of issues considered important or relevant. "We started to do the Navajo reservation because that was where there was student interest, and the students felt like they were going away and learning about something they didn't know about. In the last year or so," she adds, "we have been moving more toward asking questions like, 'Okay, if we want to do a more environmentally focused trip, where are the areas we could go?' We also started traveling to San Francisco to address more urban issues, like homelessness and the HIV/AIDS community."

For this year's ASB, students will go to one of four different sites. Volunteer work will continue in Tecolote and San Francisco, while Santa Cruz Island and Owens Valley, California, will allow participants to address environmental issues and service.

"In addition to the hands-on service that the students will be doing," Castro explains, "there is an education component; we hope to personally gain as much as we give on these trips. We have speakers coming and the students will be visiting new places, so it's just as much an educational trip as it is a service."

According to Greg Fletcher, the Y's student activities director, about 45 people (mostly students) will be involved in this year's ASB, and the event's popularity has already inspired an additional volunteer trip to Costa Rica this summer. "So that will involve international service learning even more than, say, Tijuana," Castro says. "The ASB and summer trips have similar goals but the summer trip will be longer." The intent is to provide more of an experience of cultural immersion.

Whether the Caltech Y offers more concentrated or expanded events for travel, service, and education, they are sure to continue providing memorable and meaningful opportunities for participants.



On February 19, Linde Professor of Physics Barry Barish, director of the LIGO laboratory based at Caltech, announced the Einstein@Home computing project at the annual meeting of the American Association for the Advancement of Science, in Washington, D.C.

Astrophysics using your home PC

A new, grassroots computing project, dubbed Einstein@Home, will let anyone with a personal computer contribute to cutting-edge astrophysics research. Announced last month, the home-based project is designed to aid in the search for gravitational waves in data collected by U.S. and European gravitational-wave detectors, including LIGO—the Laser Interferometer Gravitational-Wave Observatory—which has its headquarters on the Caltech campus. A joint project of Caltech and MIT, LIGO's two detectors are located in remote locales near Hanford, Washington, and Livingston, Louisiana.

Albert Einstein's general theory of relativity predicted the existence of gravitational waves, which are produced by such events in our galaxy and the universe as black hole collisions, shock-waves from the cores of exploding supernovae, rotating pulsars, neutron stars, and quark stars. These ripples travel toward Earth, bringing with them information about their origins and invaluable clues to the nature of gravity.

Finding such signals in gravitational-wave data is computationally intensive. Therefore LIGO researchers are working to enlist the aid of an army of home computer users to analyze the data through a distributed computing project, much like the popular SETI@Home project that searches radio antenna signals for signs of extraterrestrial life. Due to the extraordinary amount of data that gravitational detectors collect, the researchers hope to involve hundreds of thousands of people in the effort.

Einstein@Home is a program of the World Year of Physics 2005 celebration of the centennial of Albert Einstein's miraculous year. That was the year 1905, when Einstein revolutionized much of science with three groundbreaking advances: he proved the existence of atoms and molecules, he validated the emerging field of quantum mechanics, and he developed the special theory of relativity—which led to the most famous equation ever written, $E=mc^2$.

Einstein@Home is a screensaver-based project that analyzes the data while a PC is otherwise idle. During the analysis it displays a screensaver that depicts the celestial sphere with the major constellations outlined, and includes a moving marker indicating the portion of the sky being searched for gravitational-wave signals. Versions of the program are available for PCs running on Windows, Linux, and Mac operating systems. If you are interested in signing up your personal computer, please see <http://einstein.phys.uwm.edu>.



Volunteers in Teesto, Arizona, for the Caltech Y's Alternative Spring Break in 1996.

March 14–27, 2005

M T W T F S S

Monday, March 14

24th Annual Western States Mathematical Physics Meeting
151 Sloan, 9 a.m. to 5 p.m.—Program information, including the schedule, speakers, and topics, can be found at www.math.caltech.edu/events/wsmp04.html. Fee: \$10; graduate students free. Continues on March 15.

Neurobiology Seminar
24 Beckman Labs, 2 p.m.—Topic to be announced. Professor Michael Platt, department of neurobiology, Duke University Medical Center.

Applied Mathematics Colloquium
101 Guggenheim Lab, Lees-Kubota Lecture Hall, 4:15 p.m.—“Uniform On-Surface Radiation Conditions for Scattering and Related Asymptotic Problems in Weakly Nonlinear Dispersive Wave Theory,” David Calvo, research scientist, acoustics division, National Research Laboratory.

Tuesday, March 15

General Biology Seminar
119 Kerckhoff, 4 p.m.—“Regulating the Size and Strength of a Glutamatergic Synapse,” Professor Aaron DiAntonio, molecular biology and pharmacology department, Washington University School of Medicine.

Carnegie Observatories Special Event
Huntington Library, 7:30 p.m.—“The Search for Massive Black Holes,” Luis Ho, staff astronomer, Carnegie Observatories.

Wednesday, March 16

Special Information Science and Technology Seminar
74 Jorgensen, 4 p.m.—“Epistatic Networks and Biological Function,” Roy Kishony, Bauer Center for Genomics Research, Harvard University.

Thursday, March 17

Thesis Seminar
147 Noyes, Sturdivant Lecture Hall, 1 p.m.—“The Total Synthesis of Dragmacidins D and F,” Neil Garg, graduate student in chemistry, Caltech.

Caltech Library System Presents: Quick Review for Electronic Theses
Sherman Fairchild Library, multimedia conference room, 2 to 3:30 p.m.—Caltech requires that theses be submitted in both paper and electronic versions. This presentation will offer a brief overview of techniques useful in the production and publication of electronic theses. The session will include tips on formatting, intellectual-property considerations, how to submit a thesis, and availability (who can see it and when) issues. No reservations required.

Von Karman Lecture Series
JPL, von Karman Auditorium, 7 p.m.—“Big Things Come in Small Packages: Mission Concepts Potentially Enabled by Small-RPS Technology,” Robert Dean Abelson, Near Earth Mission Architecture Group, JPL. Admission is free.

Einstein Centennial Lecture
Beckman Auditorium, 8 p.m.—“Albert Einstein in 1905: Finding New Paths to the Depths of Physics,” Martin J. Klein, Higgins Professor Emeritus of Physics and History of Science at Yale University, and former general editor of *The Collected Papers of Albert Einstein*. Admission is free.

Friday, March 18

Chemical Engineering Seminar
106 Spalding Lab, Hartley Memorial Seminar Room, noon—“Protein Evolution: The Theory and the Practice,” Dr. Dan Tawfik, department of biological chemistry, Weizmann Institute of Science.

Mathematics of Information Seminar
239 Moore, 3 to 4:30 p.m.—Topic to be announced. Chaitanya Swamy, Center for the Mathematics of Information, Caltech.

Biochemistry Seminar
100 Broad Center, 4 p.m.—“NMR Studies of Transmembrane Signaling Mechanisms in Bacterial Chemotaxis Receptors,” Lynmarie Thompson, associate professor, department of chemistry, University of Massachusetts, Amherst.

Kellogg Seminar
Lauritsen Library, 4 p.m.—“Density Functional Theory with Effective Field Theory,” Professor Richard Furstahl, department of physics, Ohio State University.

Von Karman Lecture Series
Pasadena City College, 1570 E. Colorado, the Vosloh Forum (south of Colorado on Bonnie), 7 p.m.—“Big Things Come in Small Packages: Mission Concepts Potentially Enabled by Small-RPS Technology,” Robert Dean Abelson, Near Earth Mission Architecture Group, JPL. Admission is free.

Tuesday, March 22

Caltech Library System Presents: Chemical Compound Data Searching
Sherman Fairchild Library, multimedia conference room, noon to 1:30 p.m.—A quick review of searching for chemical compound data in both print and online resources, including Combined Chemical Dictionary, DIPPR, J. Phys. Chem. Ref. Data, ChemFinder, Kirk-Othmer, Ullmann’s Beilstein Crossfire, and Scifinder Scholar. A comprehensive handout is provided. Registration: <http://oliphant.library.caltech.edu/forms/cls-classes>.

Carnegie Observatories Colloquium Series
William T. Golden Auditorium, 813 Santa Barbara Street, 3:30 to 5 p.m.—“The GOODS on Hidden Black Holes in the Young Universe,” Professor Meg Urry, department of astronomy, Yale. Refreshments, 3:30 p.m.

General Biology Seminar
119 Kerckhoff, 4 p.m.—“Wiring the Fly Brain,” S. Lawrence Zipursky, professor, biological chemistry department, UCLA, and investigator, Howard Hughes Medical Institute.

William Bennett Munro Memorial Seminar
Treasure Room, Dabney Hall, 4 p.m.—“Moral Luck: Why Chance Is Morally Irrelevant,” Professor Julian Nida-Rumelin, visiting associate in philosophy, Caltech.

Wednesday, March 23

Information Science and Technology Seminar
74 Jorgensen, 4 p.m.—“Coresets in High Dimensions,” Professor Sariel Har-Peled, computer science department, University of Illinois.

Thursday, March 24

Chemical Engineering Seminar
106 Spalding Lab, Hartley Memorial Seminar Room, 4 p.m.—“Achieving Site Isolation and Nanoscale Functional Group Organization on Surfaces,” Professor Alexander Katz, department of chemical engineering, UC Berkeley. Refreshments, 113 Spalding Lab, 3:30 p.m.

Friday, March 25

High Energy Theory Seminar
469 Lauritsen, 11 a.m.—Topic to be announced. Partha Mukhopadhyay, department of physics and astronomy, University of Kentucky.

Inorganic-Organometallics Seminar
151 Crellin, 2:30 p.m.—“The Enantioselective Tsuji Allylation,” Douglas Behenna, graduate student in chemistry, Caltech.

Inorganic-Electrochemistry Seminar
147 Noyes, Sturdivant Lecture Hall, 4 p.m.—“In Situ Spectroscopy on Mars: Following the Water,” Professor Philipp Guetlich, Institute for Organic Chemistry and Analytical Chemistry, University of Mainz.

CampusEvents

Wednesday, March 16

Track and Field

CSUN Multi-Event Meet, at Cal State Northridge, 9 a.m.

Thursday, March 17

Track and Field

CSUN Multi-Event Meet, at Cal State Northridge, 9 a.m.

Friday, March 18

Men's Tennis

vs. Colorado College, tennis courts, 9 a.m.

Track and Field

Oxy Distance Carnival, at Occidental College, 9 a.m.

Men's Tennis

vs. University of Wisconsin-Oshkosh, tennis courts, 2 p.m.

Women's Tennis

vs. Skidmore College, 2 p.m.

Saturday, March 19

Caltech/MIT Enterprise Forum

Baxter Lecture Hall, 8 to 11 a.m.—In “The Wireless Revolution: The Next Wave of Opportunities,” the Caltech/MIT Enterprise Forum will look at the most promising entrepreneurial opportunities in the wireless market. A panel of experts will look at these opportunities from a number of perspectives, and will provide opinions about the market as a whole and the most productive opportunities for entrepreneurs over the next several years. Registration and information: www.entforum.caltech.edu.

Women's Water Polo

Claremont Tournament, at Claremont-Mudd-Scripps, 8 a.m.

Men's Tennis

vs. Southwestern College, tennis courts, 9 a.m.

Track and Field

Northridge Invitational, at Cal State Northridge, 9 a.m.

Sally Ride Science Festival: Reach for the Stars!

Beckman Auditorium, 11 a.m. to 4:15 p.m.—Dr. Sally Ride, America's first female astronaut, invites 5th- through 8th-grade girls to “Reach for the Stars.” The keynote speeches will be presented by Sally Ride and science columnist K. C. Cole. Parents and educators are welcome to attend. There will be hands-on creative workshops in a wide range of fields, as well as science exhibits, food, and music. The fee is \$18 in advance or \$25 on site. Registration: (800) 561-5161 or www.sallyridefestivals.com/05lax0319/register.shtml.

Women's Tennis

vs. Whitworth College, 3 p.m.

Caltech Folk Music Society Presents: Téada

Dabney Lounge, 8 p.m.—Téada seeks to capture the intricacies of traditional musical forms within a contemporary band context. (See Public Events contact information on this page.)



Three of the International Women of Hope posters, designed by Robert Appleton, are on view in the lobby of the Center for Student Services. From left to right: Ella Bhatt of India, Peace Bikunda of Rwanda, and Bella Abzug of the USA. The posters will be displayed through March 31.

Sunday, March 20

Women's Water Polo

Claremont Tournament, at Claremont-Mudd-Scripps, 8 a.m.

Coleman Chamber Concert

Beckman Auditorium, 3:30 p.m.—The St. Lawrence String Quartet, with clarinetist Todd Palmer, will perform works by Beethoven and Golijov. (See Public Events contact information on this page.)

Amnesty International Book Discussion Group

Vroman's Bookstore, 695 E. Colorado Boulevard, second floor, 6:30 p.m.—This month's book is *Bone Woman*, by Clea Koff. All are welcome. Sponsored by Caltech/Pasadena AI Group 22. Visit Group 22 at www.its.caltech.edu/~aigp22.

Tuesday, March 22

Women's Water Polo

Caltech Classic, 8 a.m.

Men's Tennis

at Westmont College, Santa Barbara, 2 p.m.

Wednesday, March 23

Men's Tennis

vs. Cabrini College, Santa Barbara, 9 a.m.

Women's Tennis

at Westmont College, 2 p.m.

Thursday, March 24

Caltech Architectural Tour

Athenaeum, 11 a.m. to 12:30 p.m.—Meet in the entry hall of the Athenaeum. Led by members of the Caltech Architectural Tour Service. Reservations: Susan Lee, 395-6327 or suze@caltech.edu.

Men's Tennis

vs. UC Santa Cruz, tennis courts, 2:30 p.m.

Amnesty International Monthly Meeting

Caltech Y lounge, 7:30 p.m.—Caltech/Pasadena AI Group 22 holds its monthly meeting to discuss current activities and plans. All are welcome. Refreshments. Information: (818) 354-4461 or lkamp@lively.jpl.nasa.gov. Visit the website at www.its.caltech.edu/~aigp22.

Friday, March 25

Fire-Extinguisher Training

Wilson Avenue North Parking Structure, roof, 10 a.m.—This class will teach basic fire safety and include hands-on training on how to use a fire extinguisher. Class size is limited; please call 395-6727 or e-mail safety.training@caltech.edu to reserve a place.

Baseball

at UC Santa Cruz, 2 p.m.

Saturday, March 26

Baseball

at Bethany College, doubleheader, 11 a.m.

Caltech Ice Skating Night

Pasadena Ice Skating Center, 310 East Green Street, 6:30 to 7:45 p.m.—Come join the Caltech Ice Skating Club for an evening of ice skating and hot chocolate. No charge for admission or the hot chocolate. Skate rentals, \$1, lockers 50 cents. Visit the club's website at www.its.caltech.edu/~skating.

Mondays

Lunchtime Pickup Ultimate Frisbee

Fox Stanton Track and Field, 12:15 p.m.—The Caltech Penultimate Frisbee players make up an informal recreational group that plays pickup games of Ultimate Frisbee at lunchtime on Mondays, Wednesdays, and Fridays. No experience is needed, and complete novices are welcome. Information: <http://mailman.its.caltech.edu/penultimate>.

Floorball Club

Brown Gymnasium, 10 p.m.—Caltech Floorball Club holds pickup floorball games on Mondays from 10 p.m. to midnight. For more information, see our website at <http://floorball.caltech.edu>.

Tuesdays

Preschool Playgroup

Tournament Park, 10 a.m. to noon—Song and storytime, crafts and free play for toddlers and preschoolers (from walking to age 4). Sponsored by the Caltech Women's Club. Information: 584-0970 or kimdeman@yahoo.com.

CIT Knitters Group Meeting

256 Mudd Laboratory, South, noon—All level of knitters and related handcrafters are welcome. We make items for others and ourselves. Information: 395-6905.

Caltech Tai Chi Club

Winnett lounge, 7 p.m.—Meets Tuesdays and Fridays weekly. Sessions are free. Information: www.its.caltech.edu/~taichi.

Wednesdays

Wednesdays in the Park

Tournament Park, 10 a.m. to noon—Every Wednesday there's conversation and coffee for parents and caregivers, and playtime and snacks for children. Stop by and make new friends from around the world. Sponsored by the Caltech Women's Club. Information: 793-2535 or nancyhewett@earthlink.net.

Lunchtime Pickup Ultimate Frisbee

Fox Stanton Track and Field, 12:15 p.m.—The Caltech Penultimate Frisbee players make up an informal recreational group that plays pickup games of Ultimate Frisbee at lunchtime on Mondays, Wednesdays, and Fridays. No experience is needed, and complete novices are welcome. Information: <http://mailman.its.caltech.edu/penultimate>.

Thursdays

Baby Furniture and Household Equipment

234 S. Catalina, 10 a.m. to 1 p.m.—Loans of kitchen and household necessities and baby furniture are made to members of the Caltech and JPL communities. Open on Thursdays only. No appointment is necessary. Information: 584-9773 or furnpool@caltech.edu.

Fridays

Lunchtime Pickup Ultimate Frisbee

Fox Stanton Track and Field, 12:15 p.m.—The Caltech Penultimate Frisbee players make up an informal recreational group that plays pickup games of Ultimate Frisbee at lunchtime on Mondays, Wednesdays, and Fridays. No experience is needed, and complete novices are welcome. Information: <http://mailman.its.caltech.edu/penultimate>.

Caltech Tai Chi Club

Winnett lounge, 7 p.m.—Meets Tuesdays and Fridays weekly. Sessions are free. Information: www.its.caltech.edu/~taichi.

Caltech Chess Club

Page House dining room, 8 p.m.—Be you master or novice, you will enjoy the chess club's weekly meetings. Information: www.its.caltech.edu/~citchess.

Public Events information and tickets

395-4652, 1 (888) 2CALTECH, or events@caltech.edu. Individuals with a disability: 395-4688 (voice) or 395-3700 (TDD). Visit Public Events at www.events.caltech.edu.

Flexen, from page 1

La Verne (paid for by the Air Force). She's been with the Reserves since 2001. Her reason for rejoining the service as a reservist was simple. "I missed it—missed the camaraderie that you don't see in the civilian world," she says. She also receives a paycheck and, if she remains in the reserve for 12 more years, is eligible for retirement benefits as well.

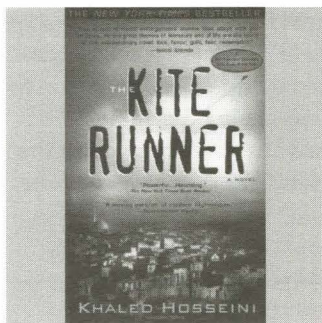
In addition to serving one weekend each month, she must also serve two weeks each summer for job training. But she gets to choose where she wants to train. (This year: Hickam Air Force Base in Hawaii.) Her Air Force job involves stacking pallets with supplies, then using heavy chains to secure the load. She drives various forklifts and specially designed flatbed trucks that carry the loaded pallets into the aircraft. It's dirty and often dangerous work.

"The work is real physical," she says, "and dangerous. I've heard of and seen people break bones, crush their fingers, smash their toes. You have to stay focused."

Several members of her unit, the 50th Aerial Port Squadron, or 50th APS—"Everything's an acronym in the service" she laughs—have been deployed to countries neighboring Iraq. She is, she says, not afraid of going, although she would worry about being away from her kids for as long as a year. "It's not as though I'd be on the front lines. So far members from my unit who've been deployed were sent to Al Udeid Air Base in Qatar, Karshi Air Base in Uzbekistan, and an undisclosed location in Afghanistan."

That said, there is one thing that brings home the whole situation in Iraq. Besides cargo, U.S. Marine troop movements are supported on a continuous basis as well. Upon their return, Flexen's unit will download their equipment from the aircraft. "And every inch of their stuff," she says, "their duffel bags, rucksacks, the small, foldable shovels they use, all of it, are just caked in brown, desert dirt. It really brings home the conditions these men and women had to live in." Left unsaid among the returning troops, most of whom were based with the First Marine Expeditionary Forces at Camp Pendleton near San Diego, is the fact that fewer troops return than were sent out.

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Kites will fly over Pasadena

Caltech students have the ME 72 Engineering Design contest, in which student teams build devices designed to outperform their rivals. Now they have the Battle of the Kites, a contest that will pit Techers against students from Art Center and Pasadena City College.

As participants will design craft that will go airborne, expect the sky above the Rose Bowl to be filled with kites. Free kites will be handed to the first 250 people to arrive, and contests will award prizes for best kite and most creative.

This kite-flying event was inspired by the novel *The Kite Runner* by Khaled Hosseini, which happens to be the city's selection for its One City, One Story community reading project. The book follows two

Shuttle mission takes off

It's worth having to leave home 10 minutes earlier each morning to ride the (CIT)² shuttle, declared Ralph Crowder, a campus custodian, as he headed home on the 1:45 p.m. bus last week.

"Actually, it relieves your stress, because you're not driving your car," said Crowder during the 10-minute trip to (CIT)², the former St. Luke Medical Center in northeast Pasadena.

Shuttling staff to and from campus is a move designed to ease the parking shortage stemming from campus construction projects. Drivers recently lost the use of two Holliston Avenue parking lots, which will accommodate temporary student housing during upcoming South House renovations. The shuttles are designed to bridge the gap until completion of the new underground parking structure south of California Boulevard.

Crowder, a resident of Altadena, says parking at (CIT)² is about as convenient as driving to campus, except it's more fun. One of 37 riders who boarded a yellow school bus last week, Crowder, surrounded by coworkers who chatted, laughed, or dozed, described a feeling of camaraderie. "This is just like being in grammar school, except my legs don't fit between these seats."

The shuttle is popular with many of the custodians who work the 5 a.m. to 1:30 p.m. shift, as well as others. The Institute provides the first 125 remote parkers with \$10 vouchers that can be used in campus dining facilities and at the bookstore or redeemed for cash.

The campus allotment of 125 spaces has been filled each day by about 9 a.m., and the parking office is receiving positive reports from users, says Gregg Henderson, chief of campus security and parking services. "It's going very well; it's maxed out every day." To help meet demand at peak times, the Institute is using a higher-capacity school bus in addition to a 19-passenger shuttle.

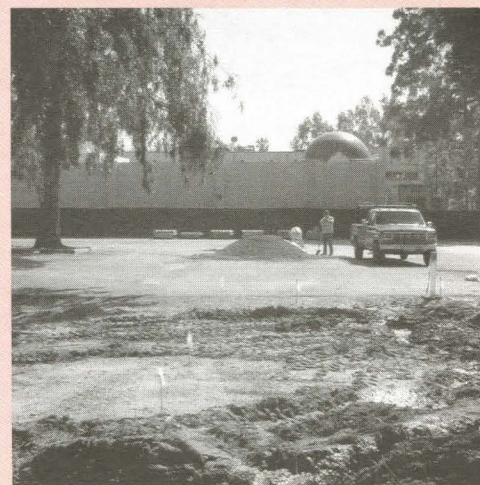
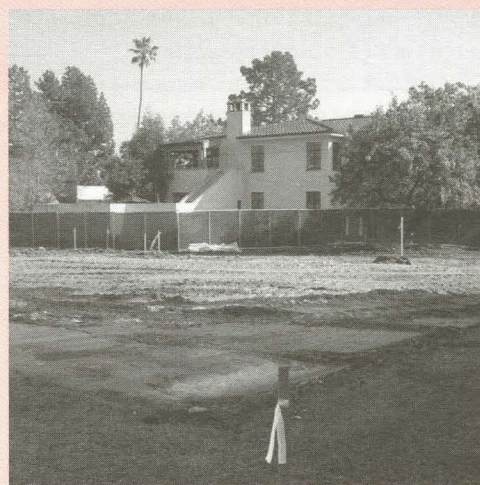
The vehicles pick up and drop off passengers at the corner of Holliston and San Pasqual and are expected to operate for four to six weeks. They are scheduled to run every 15 minutes from 4:45 a.m. to 9:30 a.m. and 1:45 p.m. to 6 p.m.

"Sure, I can use the money, but it's something more," said Ernie Garcia, who also works as a custodian. "I think people are talking to each other more than they did before."

Another frequent rider is Pat Koen, a semiretired associate biologist who has worked on campus for 39 years. "So far so good." Receiving a voucher doesn't hurt either, he says. "It helps keep me in green fees on my days off."

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Construction confluence



Construction crews attempt to make up for time lost to heavy rain as work proceeds on the new underground parking structure south of California Boulevard (top). The second photo from the top shows a view from Braun Gym of the same parking structure. According to Gregg Henderson, chief of campus security and parking services, within a few days the contractor hopes to execute a "power connect," enabling the operation of lighting and elevators. Bottom four pictures: Work continues in preparation for 16 portable housing units that will form an enclosed village on the lawn north of Avery House (upper left) and the Holliston Avenue lots (upper right). The units will be temporary homes for students displaced by renovations of the South Houses. Bottom, from left: Custodian Ernie Garcia enjoys having time to relax and talk with coworkers while riding the bus to and from (CIT)², the former St. Luke Medical Center in northeast Pasadena, where parking is plentiful. Right: A group of employees prepares to make the 10-minute trip.

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Dams, from page 1

“Although dams have their problems, they’re unfortunately still necessary because of the growing needs of humans for water storage,” says Scudder. “That’s the dilemma.”

Still, he says, many people in the world are dependent on the natural flow of rivers, and the consequences can be the sort of things you might not normally take into account. “For example,” he says, “a settlement that depends on an annual flooding of agricultural land when the river rises can be wiped out if the regulated flow of the dam causes the annual flooding to cease.”

But the book argues that despite these adverse impacts there are modern ways of addressing them. “For example, if local populations downstream have been depending on an annual inundation of an agricultural flood plain,” he says, “then the authorities in charge should consider a controlled release of water that re-creates the flooding conditions.” Experiments have been done, he notes, with coordinating hydropower generation and flooding for irrigation needs with the release of “environmental flows”—“that is,” notes Scudder, “releases of water to protect habitats and communities. This approach has been tried in several African countries, and research has shown in other cases that managed floods would be a ‘win-win’ option.”

In general, the way to make dams work for humans everywhere, Scudder suggests, is to address the social and environmental impacts before a dam is even built and, further, to evaluate the situations in river basins where dams have already been constructed. The political considerations of dam construction should be addressed as well, says Scudder. Too often, a dam project is built at a specific locale because of its political expedience, not because it is the best way to minimize the negative human and ecological impact.

“We should all be able to benefit from the dams that are to be built in the future rather than suffer from them,” he concludes.

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Kobata, from page 1

Kobata says a project worker whose primary job is agricultural translation scored a recent victory by diagnosing and treating an outbreak of fowl typhoid that threatened local chicken flocks. “People in rural villages are dependent on their animals and chickens for food and to make a living, so the situation was pretty serious.”

Kobata, who has served as editor of 336 since its inception in January 2001, will maintain a weblog about her experiences, which will be posted periodically on Caltech Today at <http://today.caltech.edu>. A description of the project can be found at www.wr.org/ourwork/whatwedo/disasterresponse.asp by clicking on Chad/Sudan.

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Memory, from page 1

The research appears in this month’s *Nature Neuroscience*.

“During a highly emotional event, like the Kennedy assassination, 9/11, or the *Challenger* accident, you remember the gist much better than you would remember the gist of some other neutral event,” says Adolphs, the lead author of the study. “But people with damage to the amygdala fail to put this special tag on the central meaning of an emotional memory. In other words, they remember the gist of an emotional event no better than that of a neutral event.”

To test their hypothesis, Adolphs and his colleagues at the University of Iowa College of Medicine used two groups of people—a normal or control group, and a group known to have amygdala damage—and showed them a series of pictures accompanied by fabricated stories. One series involved fairly mundane episodes in which, for example, a family was depicted driving somewhere and returning home uneventfully. But the other series related a tragic event, such as the family having a fatal auto accident on the way home, accompanied with gruesome pictures of amputated limbs.

As expected, the normal control subjects had enhanced recall of the emotional stories and pictures. But the group with amygdala damage possessed no better recall of the gist of the emotional story than of the mundane one. Yet both groups showed about equal ability to remember details from stories with no emotional content.

The findings, Adolphs says, suggest that the amygdala is responsible for our ability to have strong recollections of emotional events. And Adolphs says that further study could point to how the amygdala is involved in impaired real-life emotional memories seen in patients with post-traumatic stress disorder and Alzheimer’s disease.

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Caltech celebrates women’s history

Women’s History Month has begun at Caltech, and with it come events that celebrate and honor the history, achievements, and lives of women everywhere.

The month’s activities were kicked off on March 2 with a visit and talk by biologist and author Rita Arditti. In her book *Searching for Life*, Dr. Arditti writes eloquently of the courageously resolute Argentinean women known as the Mothers of the Plaza de Mayo. Having lost sons and daughters during the “dirty war” waged by the military dictatorships on students and dissidents, the women worked tirelessly as detectives to find their grandchildren. An estimated 500 of these children were either kidnapped or born in detention centers and then “adopted” by friends of the regimes. The women’s work culminated in the establishment of the first Argentinean genetic databank and the recovery of 57 children from an estimated pool of 500 missing.

Lunchtime visitors to the Women’s Center on March 8 joined in a day celebrated around the world as International Women’s Day. For the event “The Status of Women Globally,” visitors heard college students and postdocs from around the world—China, Ghana, Greece, and Venezuela—discuss both improvements in the status of women as well as the challenges that they still face.

Later on March 8, the Caltech International Film Club hosted a screening of *Rosa Luxemburg*, a film about the life of a left-wing social democrat who rose to lead pre-World War I socialists in Germany and then, after the war, in Poland, her birth country. Luxemburg was eventually assassinated for her pacifist beliefs and her stance against colonialism.

It was a homecoming of sorts on March 9 for France Córdova, PhD ’79, the chancellor of UC Riverside, during her visit and presentation of a Caltech Presidential Lecture on Achieving Diversity in Science, Math, and Engineering. As a graduate student at Caltech, Córdova studied astrophysics, and on her visit she presented a lecture fittingly titled “Stars in Her Eyes: From Poet to Rocket Scientist to Chancellor.”

On March 10, the Caltech community will be treated to a screening of *Tupperware!*, a PBS documentary that reveals the secret behind one of the most successful food storage systems. The secret was the freedom and financial wherewithal that the containers that burp afforded women, who could sell these items from home. The film is scheduled for March 10 at noon, on the second floor of the Center for Student Services. A free pizza lunch will be provided.

“What’s a Girl Got to Be Angry About?” is the title to Lela Lee’s Voices of Vision talk, which will be presented on March 31 in Beckman Auditorium. The

answer: plenty, as demonstrated in *Angry Little Asian Girl*, a comic strip into which Lee channels her anger and personal experiences with a good dose of humor.

Throughout the month, the International Women of Hope Poster Series, a display of posters depicting the courage, compassion, and triumphs of women around the world, will be on display in the lobby of the Center for Student Services. Take a minute to learn the inspiring stories of people like Ella Bhatt, a social worker who founded India’s first women’s cooperative bank and the Self-Employed Women’s Association; Peace Bikunda, the woman who founded the Clinic of Hope to treat survivors of the 1994 massacres in Rwanda; and Mary Robinson, Ireland’s first female president and a champion of human rights.

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A dining bounty

Many of us who don’t bring our own lunch to work have often relied on the various on-campus dining establishments for a quick meal. But with the closure of Chandler Dining Hall scheduled for the afternoon of March 11, Caltech staff, students, and faculty will have the chance to try the food at other sites.

The dining experience in the Chandler dining room, characterized by boarded-up windows and thunderous construction noises of late, has been likened to eating inside a raucous cave. It will be shut down during the expansion and reopen in June.

In the meantime, Caltech’s Dining Services has devised alternate arrangements at existing food outlets to handle thousands of hungry staff members, faculty, and students.

“During the closure of Chandler we will be providing many wonderful meal options at our other campus locations starting Monday, March 14th,” wrote André Mallié, director of Dining Services, in a March 1 message.

Notably, an outdoor barbecue will be held daily at the Athenaeum. The Rathskeller, located in the Athenaeum’s basement, will also open and offer Chandler-style variety. Both sites will operate from 11 a.m. to 2 p.m., and will accept payment in the form of Caltech ID cards, and cash.

Accommodations will be made for diners at the Red Door Café, the Broad Café, and Citrus Bistro, which will all remain open. Mallié wrote that seating for 100 people will be added at Citrus Bistro, and 50 more seats will be available at the Café Broad. Mexican food and ‘50s diner fare will be served in the lawn area outside the Red Door.

“We look forward to seeing you in the newly remodeled Chandler in early June,” Mallié wrote.

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