

"Nobody goes there anymore; it's too crowded."

The California **TECH**

"Do you want four slices of pizza, or eight?"
"Four; I don't think I could eat eight."

Volume XCVII, Number 3

Pasadena, California

Friday, October 6, 1995

Guenther Foundation Grant to Support Alzheimer's Postdoc Research at Caltech

from Public Relations

PASADENA—The Henry L. Guenther Foundation of Los Angeles has awarded \$120,000 to the California Institute of Technology to establish the Henry L. Guenther Postdoctoral Fellowships.

The award will allow Caltech to recognize and support several

postdoctoral fellows in the field of neurobiology, where their research in fields related to Alzheimer's disease could lead to a better understanding of the causes of the disease and help to develop treatments to combat its effects.

About 4 million Americans have Alzheimer's disease, which affects memory, judgment, and

personality, and eventually causes patients to lose control of bodily functions and speech. Its cause is unknown and there is no effective treatment.

Postdoctoral fellows are critical to the function of every research group at Caltech. These young scientists often do their most creative, productive

work during their postdoctoral training period because they are able to devote their full attention to research without the additional responsibilities that accompany a faculty appointment.

The Henry L. Guenther Foundation is a private nonprofit corporation organized to improve social conditions, promote

human welfare, and alleviate pain and suffering. The foundation applies its resources mainly to benefit California residents, especially those in Southern California, by means of improved and expanded medical services, opportunities for youth, and other humanitarian or community projects.

Tech World News Update: Current Events at a Glance

by Maria Huang and Myfanwy Callahan

Moroni, Comoros Islands — France invaded the Comoros Islands off the East African Coast to halt a coup in their former colony. About 1,000 French marines and Foreign Legion troops landed Wednesday. The French will negotiate the surrender of coup leader Bob Denard. (NYT)

Tokyo, Japan — Shoko Asahara, leader of Japan's Aum Supreme Truth Cult, confessed the cult's involvement in the poison gas attack in the Tokyo subway system earlier this year. However, cult followers insist the confession was forced. This breaks his 141-day silence on the topic. (L.A. Times)

Nadi, Fiji — The Fijian government has invited 28,000 Hong Kong Chinese to emigrate, joining the indigenous Fijian and the large Indian minority. This may boost the Fijian economy, but locals question

the invitation of so many. (NYT) (NYT)

Moscow, Russia — Yeltsin's only obvious political heir, Prime Minister Viktor S. Chernomyrdin, announced on Wednesday that he would not run for president. This leaves the future of Russia uncertain. Although no party is clearly more popular than the others, the Communists may do better than other groups in parliamentary elections this December. (NYT)

Bosnia — NATO warplane bombed three Bosnian missile batteries on Oct. 4. According to NATO, the NATO pilots were threatened by the Serbs who had trespassed the no-flight zone, and therefore had the right and responsibility to take legal military action. (NYT)

Skopje, Macedonia — The Macedonian Parliament named an interim president Wednesday after President Kiro Gligorov was seriously wounded from a car-bomb attack. It is unknown who was responsible for the attack.

Newark, NJ — Pope John Paul II arrived Wednesday in Newark for his fourth visit to the U.S. His 5-day visit to the East Coast will commemorate the 50th anniversary of the United Nations. (L.A. Times)

Pensacola, Florida — Hurricane Opal with winds reaching 145 mph swept over the Florida Panhandle Wednesday. Storm surges reached 20ft about normal tides. This is the worst hurricane to hit the area since 1969. Damages as yet unestimated. (L.A. Times)

Marin County, CA — A wildfire fanned by warm, dry winds had destroyed at least 47 homes near Point Reyes National Seashore in western Marin County, CA, Wednesday night. The blaze burned from the small Inverness Park southwest to the Pacific Ocean, and even fire fighters in Oregon and Lake Tahoe joined the battle against the fire later. (L.A. Times)

Caltech Observatory Sees Start of New Solar Sunspot Cycle

by Caltech Public Relations

PASADENA — The first sunspot in the new sunspot cycle was identified on Saturday, August 12, by astronomers at the California Institute of Technology's Big Bear Solar Observatory in Big Bear City, California. The new sunspot marks the end of the sun's quiescent period and the beginning of a new surge of sunspot activity.

"This makes us happy," said Hal Zirin, professor of astrophysics at Caltech and director of the Big Bear Solar Observatory. "The sun is a lot more interesting to study when things are going on."

Sunspots are relatively dark spots that typically appear in groups on the surface of the sun. They are associated with strong magnetic fields and with solar flares, and follow an approximately 11-year cycle of increasing activity followed by a slow decline into a quiescent period.

Early in the cycle, sunspots appear rarely and at relatively high solar latitudes around 30 to 35 degrees, then increase in frequency and appear at lower latitudes until they reach sunspot maximum. After this peak in activity, the number of sunspots slowly declines, and they appear ever closer to the sun's equator until they reach a relatively quiet phase called sunspot minimum.

There is typically some overlap between successive sunspot cycles. As the last sunspots of one cycle appear near the equator, at latitudes of about 7 degrees, the next cycle starts again with sunspots near 30 degrees, but

with the magnetic polarity of the new spots reversed.

That's exactly the point the sun is at now; it has been in a quiescent period through much of 1994 and this year, with a few spots showing up near the equator. The new sunspot photographed on Saturday appeared at a solar latitude of 21 degrees, and its magnetic polarity is opposite to that seen over the last decade, a key to identifying it as the manifestation of the start of a new cycle.

This new sunspot appeared a bit earlier than astronomers expected. Typically, as a solar cycle winds down, late bursts of sunspot activity will appear near the equator before the new cycle starts. Scientists had seen these late pulses of sunspots in 1984, but saw little late activity this time and therefore expected an early beginning to the new cycle, but not this early.

Sunspots have effects far beyond the sun itself, so while solar astronomers are excited by this news, people in many other fields are keenly interested as well. Solar flares often occur above sunspots, and can disrupt radio communications on earth and sometimes even cause widespread power outages. Flares also cause the colorful celestial displays known as the northern (or southern) lights, and cause unusual behavior in satellites, such as increased drag and disabled orientation.

Sunspots in the new cycle should rapidly become more common and reach a high level of activity in 1998 or 1999.

'Schools on the Net' brings Internet to Students, Teachers

by Stephen D. Van Hooser

Next spring, tens of thousands of volunteers will descend upon California's primary and secondary schools to install networking hardware.

In a massive collaborative effort among individuals, private companies, and colleges, the Schools on the Net project promises to put the educational resources of the Internet into the hands of California stu-

dents and teachers.

March 9 is the day it all happens. The agenda starts early, with installation of network cabling at nine; school libraries, science and computer labs, and several classrooms will be wired up. In the afternoon, industry professionals will volunteer the testing equipment of their companies to verify that all installations have gone successfully. By evening, all schools will have been surveyed and certified.

Currently, detailed plans are being drawn up for the installations. Volunteers are being solicited on the World Wide Web at <http://www.w3.com/netday96/>. Companies and schools that have already signed on include America On-Line, Apple, AT&T, Caltech, DEC, Intel, The Los Angeles Times, MCI, Netscape, Sun, and UCLA.

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Geologist Wyllie Elected President of the International Union of Geodesy and Geophysics

by Caltech Public Relations

PASADENA — Peter Wyllie, Professor of Geology at Caltech, was elected president of the International Union of Geodesy and Geophysics in July at the IUGG's XXI General Assembly in Boulder, Colorado.

Wyllie, who was vice president of the IUGG from 1991 to 1995, will serve a four-year term as president, from 1995 to 1999. He is the first American to head the IUGG since 1967.

The IUGG is made up of seven international scientific associations and is dedicated to the scientific study of the earth and the application of knowledge gained to the needs of society. The IUGG convenes a general assembly every four years, and last met in the United States in 1963, at Berkeley, California.

As president of the IUGG, Wyllie will explore two possible areas of future activity: the coordination of global monitoring, and the impact that "megacities"—sprawling metropolitan areas—have on the earth. Many international groups recognize the need for an integrated global monitoring system to gather information about

climate, global change, and environmental issues, and the IUGG is an obvious organization to coordinate such an effort. Many problems also surround the growth of megacities, and IUGG member associations have scientific information that could be very useful in solving them. The IUGG is in a good position to gather, coordinate, and apply this information to these problems if practical policies can be established.

Wyllie is an internationally known authority on the formation of igneous rocks—those created when molten material solidifies. He has been particularly involved with the origin of andesites (volcanoes that tend to explode as Mount St. Helens did in 1980); with granites that form the core of mountain ranges such as the Sierra Nevada; with kimberlites, which transport diamonds to the earth's surface; and with carbonates, which are useful for their deposits of ore rich in phosphates for fertilizers, niobium for alloys, and rare-

earth elements for superconductors.

Before launching his scientific career, Wyllie was the 1949 Royal Air Force, Scotland, heavyweight boxing champion. He attended college at the University of St. Andrews in Scotland, where he received a BS in physics and geology in 1952, and then spent two years as a geologist

in geology, and his Ph.D., also in geology, in 1958.

Wyllie taught at the University of St. Andrews, Penn State, and Leeds University, England, before joining the University of Chicago faculty in 1965. He came to Caltech in 1983 as a professor of geology and to serve as the chair of the Division of Geological and Planetary Sciences, a post he held until 1987.

Wyllie was elected a Foreign Associate of the United States' National Academy of Sciences in 1981, a Fellow of the American Academy of Arts and Sciences in 1982, a Fellow of the Royal Society (London) in 1984, a Foreign Member of the USSR Academy of Sciences in 1988, a Foreign Fellow of the Indian National Science Academy in 1991 and of the National Academy of Sciences, India, in 1992. He received the Mineralogical Society of America Award in 1965 for research done before 35 years of age, the Wollaston Medal of the Geological Society

of London in 1982, and the highest honor of the German Mineralogical Society, the Abraham-Gottlob-Werner Medaille in 1987.

He has written hundreds of scientific articles and three books, including two basic textbooks. Wyllie also served as the chair of the committee convened by the U.S. National Academy of Sciences to produce the first national disciplinary review of the earth sciences, a 346-page volume titled *Solid-Earth Sciences and Society*, published in 1993. The volume recommends priorities for future research and discusses the scientific challenges facing our society.

The IUGG was founded in 1919 and is made up of seven semi-autonomous International Associations: Geodesy; Seismology and Physics of the Earth's Interior; Volcanology and Chemistry of the Earth's Interior; Magnetism and Aeronomy; Meteorology and Atmospheric Sciences; Hydrological Sciences; and Physical Sciences of the Oceans. With more than 83 member nations, the IUGG is one of the largest unions within the International Council of Scientific Unions.

Wyllie will explore two possible areas of future activity: the coordination of global monitoring, and the impact that "megacities"—sprawling metropolitan areas—have on the earth.

with the British North Greenland Expedition. He received the Polar Medal from Queen Elizabeth in 1954 for his role in the expedition, and returned to the University of St. Andrews, where in 1955 he earned a BS with first class hon-

orary with the British North Greenland Expedition. He received the Polar Medal from Queen Elizabeth in 1954 for his role in the expedition, and returned to the University of St. Andrews, where in 1955 he earned a BS with first class hon-



Letter



Dear California Blvd. Residents:

This is to inform you that the traffic de-emphasis of California Boulevard east of San Gabriel Boulevard is being developed for implementation. The Mobility Element of the city's General Plan designates California Boulevard as a street to be de-emphasized for through traffic. This project will attempt to divert through traffic to Del Mar Boulevard and reduce the average speed on California Boulevard.

The portion of California Boulevard between San Gabriel Boulevard and the east city limit will be striped similar to the existing striping on California Bou-

levard between Allen Avenue and Lake Avenue. Also, the portion of California Boulevard in the city of San Marino between Allen Avenue and San Gabriel Boulevard will be striped in this manner to provide for one lane in each direction with a two-way-left-turn lane. Staff will be working with the city of San Marino to schedule the striping improvements. The tentative date for installation is October, 1995.

If you have any questions regarding this project, please contact me at (818) 405-4191.

Sincerely,
KEIL MABERRY
Engineer

Editors' Corner

From your Friendly Tech Editors

Welcome to the new, improved *California Tech*! We have a new layout editor, Autumn Looijen, who has been doing a *fantastic* job. Additionally, we have many new staff members, so be looking for their articles in the near future.

New to this volume of *The Tech* is a short summary of national news events. We'd appreciate your feedback; please send it to editors@tech.

As you may have noticed, we have a lot of summer press releases we would like to run. We'll be getting them out within the next few weeks, and then we'll probably be in great need of more new material.

We're currently lacking opinion and sports writers. In addition, our World Wide Web page will be up soon. If you're interested in helping out with either of these things, please stop by the Coffeehouse on Fridays at 12:15 for some free food and newspaper talk!

The California TECH

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CALTECH
public events

EXPECT THE UNEXPECTED

Lagerstrom Chamber Music Concert

Pianist MACK McCRAY

Works by Haydn, Beethoven, Bartók, Chopin & Liszt

SUNDAY, OCTOBER 8, 1995 / 3:30 PM

Dabney Lounge

FREE

Earnest C. Watson

"Heart Attack or Heartburn:
New Chemical Diagnostics
That Make the Call"

Dr. Thomas Meade

WEDNESDAY, OCTOBER 11, 1995 / 8:00 PM

Beckman Auditorium

FREE

POLITICAL SATIRIST

MARK RUSSELL

FRIDAY, OCTOBER 13, 1995 / 8:00 PM

Beckman Auditorium

Regular Prices: \$35.00 - 32.00 - 29.00

California Shakespeare Festival

"MUCH ADO ABOUT NOTHING"

SATURDAY, OCTOBER 14, 1995 / 8:00 PM

Beckman Auditorium

Regular Prices: \$25.00 - 22.00 - 19.00

CALTECH
DISCOUNTS

CIT STUDENTS:

Half price for all events

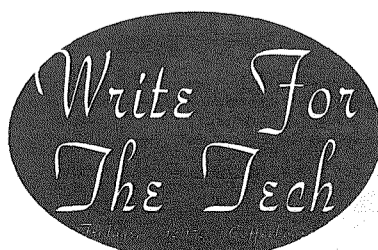
\$8.00 RUSH tickets day of show
(subject to availability)

CIT STAFF / FACULTY:

\$2.00 off for all events

Half price TECHTIX available day of show (subject to availability)

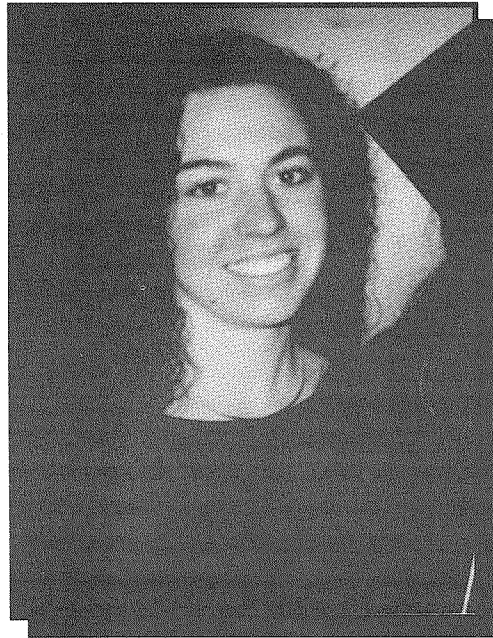
Call the Caltech Ticket Office at x4652



SENIOR CLASS PRESIDENT

PENNY MUIR

Seniors, Right now it may seem that there are a million things more important than choosing a senior class president. However, some day soon, particularly the second week of June and uh... tomorrow (frosh), the decisions made by your class president will affect your final days at Caltech. While the duties of the senior class president may be few in number, they have a profound impact on special days we will remember when we think back on our years at Caltech. I urge you not to vote for a candidate just because you know them. Consider that you can know a person and like a person, but their ideas about certain issues may not agree with your own. Consider that the senior class president is a representative of the entire class and that bearing this responsibility, the president needs to meet with all the members of the class to hear their opinions. Consider that a person who already has a number of time consuming obligations, and attempts to take on another, may not dedicate the time to the senior class that we all deserve. If elected, I will consider myself to be a collector of opin-



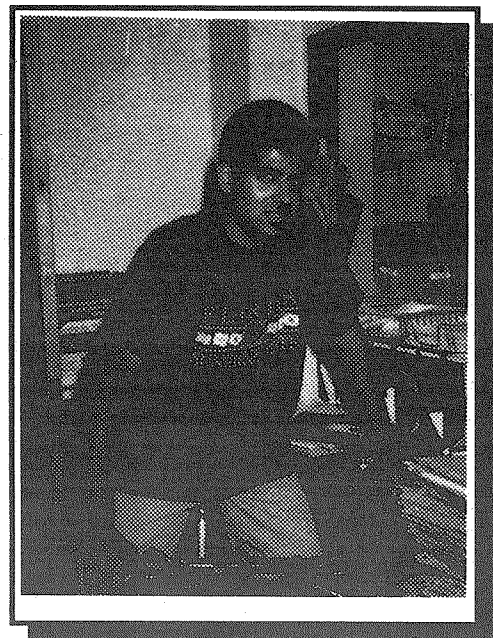
ions first, and a decision maker only secondarily. My current and anticipated responsibilities are relatively few so that if elected I will have the time to insure that our final year, and final memories, will be the best they can be.

Thank you, Penny Muir

ADIL KARIM

The senior class president has two main duties; setting the date of Ditch Day and "helping" to determine the form of the commencement exercises. I shouldn't have any difficulty with the first issue. For me, every day is Ditch Day. As for the second, the commencement ceremony is a subject of great importance to the entire senior class. It signifies that our work here is done. After the ceremony, we will have only our loans to remind us of the time we spent here. I would also like the ceremony itself to linger in our memories. We all feel that students should have a greater say in determining the graduation speaker. The issue that remains is how to convincingly present our case to the convocation committee.

I plan on reflecting student opinion to the best of my ability and presenting an articulate argument to the committee on behalf of the individual that we want to have speak. Our current class officers have been gathering information for some time and I am confident that we will be able to present a unified and informed opinion when the time comes. I feel very



strongly that I would be an effective voice for the senior class. My years at Tech have been very special to me and I hope to continue working to make our experience here something that we can all be proud of. Thank you.

Deadlines for Submission to The Tech

Letters to the Editor — 5 P.M. Monday
 Events and Notices — 5 P.M. Tuesday
 Unsolicited Articles — 5 P.M. Tuesday
 Regular Columns — 5 P.M. Wednesday
 Articles, News Submissions — 5 P.M. Wednesday

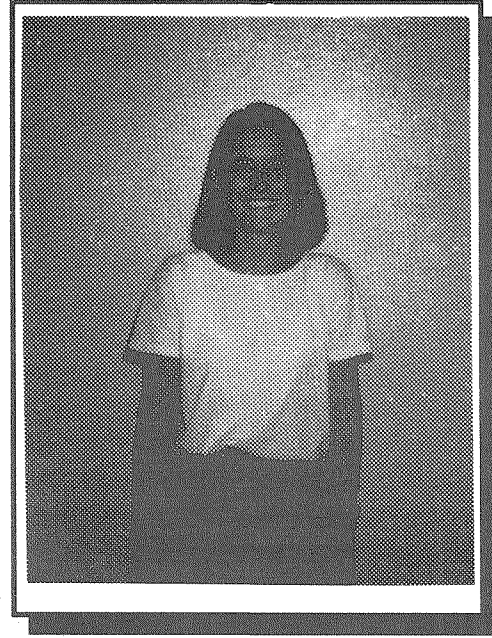
BECKY BLANKENBURG

Remember three years ago? The excitement the end of Rotation brought, when we found out which house we'd be living in? And remember ponding Nate Lewis a couple of weeks into Chem 1a? And suffering through all-night problem sets and mishap Phys labs? We have come a long way in the last three years. And we have one last year at Caltech — a year filled with some pretty important events! In order to have the most fun possible in our last year, we're going to need some careful planning for Senior Ditch Day, the graduation events, and the actual ceremony. This is why I am running for Senior Class President.

What can I bring to the office? Through my elected and voluntary positions at Caltech (Ruddock House Secretary, Frosh Camp UCC, Health Advocate), I have gotten to know the Caltech administration and staff well, which will help when I need to coordinate efforts with them in order to plan graduation and Ditch Day. I have had experience planning events before, and know how to recruit others to help get the job done. I know a lot of seniors in each of the seven houses, and feel that I can be representative of the Senior Class. Finally, I believe that I can bring a lot of excitement and enthusiasm to the position.

Aside from the usual duties of Senior Class President, I have two other specific goals. First, as Senior Class President, I will recruit a lot of media for Senior Ditch Day. In past years, I don't feel that we have had enough media coverage to fully represent all the time, energy, and creativity that has gone into planning Ditch Day.

Second, I have given a lot of thought to the idea of having one final class-wide party/get-away. The last time I remember us having a class-wide party was Frosh Camp, which was far too long ago. I think that it would be awesome for us to get away from Tech for one last party/camp before we all graduate and go our sepa-

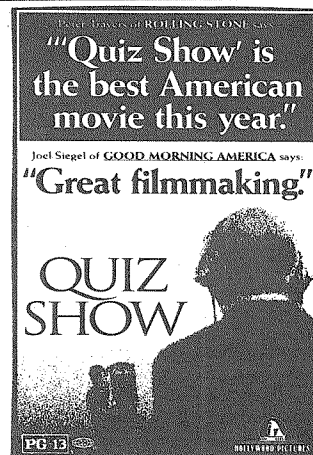


rate ways. Thus, I propose that is I am elected Senior Class President, I will plan a "Senior Camp".

Finally, some of you may be wondering why I didn't run for Senior Class President last June. I strongly considered running, but running, but decided not to because I thought that I would be over-committed this year; I don't believe that it is fair to our class to have some of our most important moments at Caltech organized by someone who does not have the time to dedicate to the position. As I have chosen to lessen the number of my commitments and do not have extensive house or ASCIT responsibilities, I feel I will have the time to be a good Senior Class President.

When it comes to voting on Monday, please vote for someone who has the organizational abilities, resources, and time to plan Senior Ditch Day and graduation activities. Please vote for Becky Blankenburg for Senior Class President. If you have any questions or comments about my plans, I welcome you to share them with me (Ruddock 110). Thank you!

FRIDAY NIGHT ASCIT MOVIE



Baxter
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Hall

Show Times:
7:30 & 10:00

\$ 1.50
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Daily 4:30, 7:00, 9:30 p.m.
Sat-Sun Bargain Matinee 1:45 p.m.

Daily 6:00, 8:00, 10:00 p.m.
Sat-Sun Bargain Matinee 2:00 p.m.
Sat-Sun Regular Matinee 4:00 p.m.

Biologists Find Roundworm Protein Similar to Human Cancer Protein

from Public Relations

PASADENA — A team of biologists has found a striking similarity between a protein found in roundworms and a common but puzzling protein in humans that is sometimes involved in the growth of cancer. This link, reported in the August 25 issue of the journal *Science*, will help scientists who study human cancer genes direct their research in more promising directions.

The human protein, called CBL pronounced "sibyl" was discovered by Wallace Langdon of the University of Western Australia, and is important to the study of cancer in people because a mutant form of CBL promotes the growth of cancer. Scientists already knew that CBL, in either a normal or a mutant form, could be modified by the activation of any of a number of different surface receptors.

Surface receptors are the means by which cells communicate. Many different kinds of receptors sit on the surface of each cell, and each type is sensitive to a particular signaling protein. When a signaling protein meets a receptor that recognizes it, they fit together like a key in a lock, and the receptor conveys the signal to the cell's interior, where it activates a series of events.

While it is well known that CBL can promote cancer in its mutant form, no one knows what it does in its normal form. Researchers need to better understand CBL's role in a

healthy cell, so they can figure out how, when it mutates, it can lead to cancer.

Here's where the roundworms come in. The nematode *Caenorhabditis elegans*, a microscopic roundworm commonly used in genetic research, has a surface receptor on its cells called LET-23 that is equivalent to the receptor for epidermal growth factor in humans.

LET-23 and many proteins that

amino acids, and over a stretch of 390 amino acids, SLI-1 from the roundworm shares 55 percent of the same amino acids in the same order with CBL from humans.

This important link between two cancer research efforts, one in people and one in roundworms, suggests that the function of CBL in human cells, until now a mystery, may very well be the same as SLI-1 in nematodes. CBL, like SLI-1, could be an inhibitor of surface receptors' ability to convey a signal to a cell's interior.

Several labs, including Sternberg's, have found comparable similarities in the structure and function of proteins from people and roundworms in the same signaling pathway that includes CBL. (A pathway is a sequence of related signals and activity in and between cells, and this one is especially important because it also controls the activity of the RAS protein, a superstar player in the development of cancer.) But even if CBL doesn't play a role in humans exactly analogous to SLI-1's role in roundworms, this finding gives a broad hint to researchers who study human cancer genes. Now they know one of the pathways in which CBL is involved, and can begin to study CBL's role in it.

Former Caltech graduate students Junho Lee, now at UC Berkeley, and Gregg D. Jongeward, now at UC San Francisco, also contributed to this research, which was supported primarily by funding from the National Institutes of Health.

This link will help scientists who study human cancer genes direct their research in more promising directions.

act as signaling proteins are well known to scientists, but Charles H. Yoon, a graduate student in the lab of Paul Sternberg, an associate professor of biology with the Howard Hughes Medical Institute at Caltech, has been studying an inhibitor protein called SLI-1. Inhibitor proteins interfere with the activation of a receptor. The SLI-1 protein is thought to inhibit the LET-23 receptor and thus inhibit signaling inside the cell.

After several years of genetic study and sequencing, Yoon found that the structure of SLI-1 is remarkably similar to a well-known human cancer protein: the puzzling CBL. Proteins are made of long strings of

Caltech Neuroscientist Named a Pew Biomedical Scholar

from Public Relations

PASADENA — Erin Schuman, assistant professor of biology at Caltech, has been named a 1995 Pew Scholar by the Pew Scholars Program in the Biomedical Sciences. As a Pew Scholar, Schuman will receive \$200,000 in support of her research over the next four years.

The Pew Scholars Award will allow Schuman's lab to explore what effect neurotrophic factors—proteins that foster the growth of neuron—have on the transmission of signals across synapses, the junctions between neurons.

Specifically, she plans to build an apparatus for recording electrical impulses from neurons grown in culture, in order to examine the effects of neurotrophic factors on miniature synaptic events.

Schuman earned her bachelor's degree at the University of Southern California, where she graduated with honors in psychology and was elected to the academic honor-

ary society Phi Beta Kappa. She earned her doctorate in neuroscience and psychology at Princeton University in 1990, and has held postdoctoral appointments at Princeton and Stanford universities. S

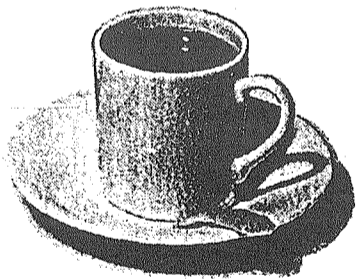
chuman joined the Caltech faculty in 1993, and was named an Alfred P. Sloan Research Fellow and a John Merck Scholar in 1994. Earlier this year she received the 1995 Emerging Scholar Award from the American Association of University Women.

The Pew Charitable Trusts, a national philanthropy based in Philadelphia, support non-profit activities in the areas of conservation and the environment, culture, education, health and human services, public policy, and religion. Through their grants, the trusts seek to encourage individual development and personal achievement, cross-disciplinary problem solving, and innovative, practical approaches to meet the changing needs of society.

Schuman will receive \$200,000 in support of her research over the next four years.

One of Schuman's latest papers, "Nitric Oxide and Synaptic Function," was published in the 1994 Annual Review of Neuroscience.

The Red Door Café



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Dave and Mary Campbell

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Official ASCIT Minutes: 9/27/95

Present: The BOD (Jon, James, Dave, Kanna, Tom, Ken, Greg, Laura, and Melissa) minus James and Ken

- The purpose of the ASCIT Minutes is to relate and explain the actions of the ASCIT BOD to the Caltech Community, especially the Caltech undergraduates. They are not to be used as a floatation device.
- Meeting starts at 2:11 p.m., Pacific Standard Time, in SAC 25. SAC 64 is a heaping ruin of couches, chairs, a big ugly red table, and 50+ years worth of minutes. SAC 25, on the other hand, has some nice couches and a big blue comforter.
- Apparently, the Caltech Finance Office had been filing ASCIT's non-profit 990 forms for several years, but the IRS didn't receive the forms this year, and the finance office called Dave (me) to the office and made HIM (me) think that HE (me) owed \$3000 to the IRS, so HE (me) is (am) (me am?) rather upset. However, I'm the stupid one who hasn't put out a current list of how to reach the BOD. ASCIT, though, was charged with a late filing penalty of \$3000. Kanna will write a letter of plea to IRS and talk to Stan Borodinsky about getting someone else to file the 990s.
- The Admissions office still hasn't paid us \$100 for prefrash weekend. Dave will ask them for the money for the third time on Monday.
- The Clue is out in paper and on the Web. Apparently, the editors didn't remember that they were supposed to EDIT the Clue, which now contains 12 long reviews of Ch 1. There are 250 copies of the Clue in circulation somewhere around Pluto (I can't find them), and they cost \$1700.
- Tom Maccarone, IHC Chair: "If I'm lucky, I'll go out with the Dean."
- The BOD discusses the collection of club funding from outside sources. Student affairs gives money to the Dean's Office, the DRL, etc.; clubs then have to collect money from many different sources. The Glee Club, though, has to go to Student Affairs, not the Music program,

to get funding. The BOD debates the merits of a centralized source of club funding and decides that the current system of club funding should be changed to work out these inconsistencies.

- Dave says the election for Senior Class president is happening. The Little T also didn't get the HUGE packet of bylaws changes that Dave slipped under an editor's door, so the ASCIT Bylaws in the Little T are wrong. Dave will ask the Little T editors to put the correct Bylaws on the Web. Dave was also asked if it was difficult to take minutes while he was speaking AND trying to represent people. You bet.
- Laura put a copier account form in the Tech, and she might try to put one in the Tech every week. Kanna asks Laura to keep financial books about the copier and the van. Laura Munoz, Upperclass Director at Large, has NEVER driven the van.
- Greg Steiert threw a b...in party on the Olive Walk, and paid Wart, the rooftop DJ, \$100 to wear a skirt

and play the theme from Mortal Kombat. Most of the other music, though, was great. Greg is also peeved that he can't find a good spot (or any spot) to park in the Holliston lot (especially on weekends) and believes that this is the reason why Caltech is scoring so low in national college reviews. The BOD agrees that undergraduate parking stinks.

- The Totem people (Thanh-Nga Tran and Mike Ru) show up at SAC 25 and justify the Totem expenses. The Totem ended up making 88 dollars (after ASCIT funding and ads). Score. The Totem is also on the Web. Depressing poetry, immediately accessible at your fingertips.
- Melissa asks when the UROH should come out, and we give her the vague answer of "a few weeks after last year's one came out." Maybe 4 weeks into second term.
- Micah Barclay, Greg Steiert's prefrash (somewhere, God is laughing), is now the unofficial ASCIT Doughboy because the motion to give him the title of ASCIT

Doughboy failed 3-0-2.

- Jon wants a Community Issues Focus Group to form because the campus as a whole should look at the issue of racial diversity. The number of minority students at Caltech is good but could be much better. Racial diversity is a serious issue that hasn't been addressed by the campus, and such a Focus Group would act as a catalyst to improve the number of minorities on the campus and educate the campus about the diversity of cultures on campus. It would be nice if the student houses, the CENTERS OF UNDERGRADUATE LIFE, could work with various groups on campus to look at issues such as campus diversity.
- Double Power Wisk cleans better with HALF the liquid. But it's blue. Why I should pour blue gunk on my clothes to clean them is beyond me. I'm a physicist.

Respectfully submitted,
Dave Relyea
"ASCIT Secretary Mediocre" -A.C.

From the Treasurer

It's that time of year again. Club treasurers, you have until drop day to contact me at kannas@ugcs to tell me that your club is indeed still alive and you would like money for this term. Please tell me your account number (if your club has a Caltech account that is the preferred method) or whom I should address a check to by this time.

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Tech Sports Update: Teams' Effort Pays Off

MEN'S SOCCER

Overall: 0-5
SCIAC: 0-3

The 95 season opened with a 0-8 loss to Pacific Christian. Although it did not begin so well for the Beavers, they did improve the second half. With the first 45 minutes ending with a score of 0-6, the second 45 minutes could only get better. After that, the team picked up their intensity and played a much better game. Freshman Matt Barnett did a tremendous job at goalkeeper, holding them to only 2 goals in the second half.

On Sept. 3rd, everything started to come together as the Beavers played the Occidental Tigers. Despite the 2-3 loss, the team played with great intensity and showed on overall improvement. Several key players sustained injuries, including Robert Chapman who suffered a head injury which required emergency attention. Rob Bergeron suffered an ankle injury early on, but still provided the team with 110% effort and scored the first goal of the season from the penalty spot. The second goal came from Chris Marsh who shot from long range into the top corner. Another freshman, Brian Frazier, aided Matt Barnett in the goalkeeper position. Both had great games, and the two look to be a great tandem for the Caltech defense.

The Beavers lacked concentration and intensity in the Sept. 25th game against LaSierra, suffering a 2-4 loss. Coach Howell's said, "...although we totally outplayed the opposition, we lacked desire..." Playing without several starters also hurt Caltech. The two goals came from senior Chris Marsh, and junior Chris Moustakas.

On Sept. 27th the Beavers battled Whittier College. The Poets started fast and caught the CIT defense flat-footed and

went ahead in the 3rd minute. Before the first half was over, Whittier scored 2 more goals. The second half found the Caltech team with a new goalkeeper, Brian Frazier. Brian played a strong game and, although conceding 3 goals, he recorded 11 saves. Two of the second half goals unfortunately came from defensive mistakes. The few shots the Beavers took were on target and made the Poet goalkeeper work to keep them out.

There was no doubt that Cal Lutheran would be a strong team as Caltech played them on Sept. 30th. The first shock came when Tech took the early lead, which was the first goal that CIT had scored against them. When Clay Kishiyama took the ball to the goal and beat the CLU goalkeeper, Urban Dabutha was in great position to tap the ball in. Cal Lu. tied the game on a defensive lapse and scored again almost immediately while the Beavers were still shaken. With the starters basically starting the second half, Caltech held CLU until 18 minutes had gone by. Then they tallied four goals.

VOLLEYBALL

Overall: 3-3

On Sept. 19th the Lady Techers suffered a loss to the Whittier College Poets. It took a couple of games for the nervousness to wear off and some confidence to build up. The Whittier players proved to be a strong opponent for CIT, dominating the first two sets and winning 15-1 and 15-4. Caltech woke up in the 3rd set and came on strong, giving the Poets a run for their money. Despite the 14-16 loss in the third set, Caltech's defense picked up with Ellis Meng getting 10 digs.

The team answered the Whittier loss with a win over California Christian on Sept. 23rd. In the first set the Beavers com-

pletely overpowered the opponents winning 15-0 and all 15 points coming with Grace Yang serving. The second set was not so easily won with a score of 15-7. The only real setback came in the third set, with a loss of 7-15, but the team pulled together to put the intensity back into the game winning, the fourth set 15-2. Angie Bealko and Jen Holland both had 6 kills, and Eve Dillman and Grace Yang had 5 kills each. Laura Verhoff played front row for the first time this season, and had 3 kills of her own.

MEN'S CROSS COUNTRY

Overall: 6-1
SCIAC: 0-0

The Caltech men's cross country runners brought home many PR performances at they raced in CIT's own Invitational held at the Lower Arroyo Park. The 8K course is quite a challenge, yet the men harriers took second place out of 8 teams. The top 7 Caltech runners all performed very well and raced as aggressive and intense competitors.

Tech's first finisher, Tom Meyer, placed 10th in 30:10 He was followed closely by Caltech's next 6 runners. These included Brian Barris (31:14), Tom Dmukauskas (31:17), Brad Nakatani (31:36), Conrad Zeisler (32:10), Chris Cary (32:11), and David Richard (32:42).

On Sept. 30th, the Caltech men ran a great race at the Redlands Invitational held at Yucaipa Regional Park. The harriers placed first place out of 8 teams. Many of the runners had PR's and freshman Conrad Zeisler had a great performance. Sophomore, Dan Kleiman, returning from the injured reserved list, ran well enough to place first. The results and times of this race will be posted in the next press release.

WOMEN'S CROSS COUNTRY

Overall: 3-3
SCIAC: 0-0

Caltech's own lady harriers came on strong as they raced at CIT's Invitational Meet on Sept. 23rd. They took 4th place out of 7 teams, with Cailin Henderson finishing 2nd with a time of 20:26. Caltech's next runner, coming in at 12th place, is a newcomer to the cross country team. Senior, Janet Sun clocked in at 22:23. Janet looks to be a tremendous runner and great help to the women's team this year. Also scoring for Caltech was Grethan Larson (23:33), Phyllis Chen (24:28), and Karen Bletzer (25:09). Katie Stofer, Keely Walker, Aimee Pierce and Amy Dullard all came across the finish line with their own PR's.

The women harriers placed third out of 7 teams in the Redlands Invitational on Sept. 30th. The course was slow but the women ran well. Cailin Henderson placed second overall, behind an independent runner. The results and times of this race will be posted at a later time.

WATER POLO

Overall: 1-2
SCIAC: 0-0

On Sept. 30th Caltech hosted the Caltech Classic Water Polo tournament. Tournament teams included, Loyola Marymount, Occidental, Chapman, Cal Maritime and the Caltech Beavers. The last game of the tournament pitted the Keelhauler's of Cal. Maritime against the mighty Techers. Caltech is just beginning their Fall season and missed their first 3 shot but defense reigned as Caltech pressed out to a 5-0 lead

by the end of the first quarter. The lead was extended to 12-0 at half. "The starters came out a little tense on offense before relaxing and running our system. But throughout the contest the team played a tough and tight, man on man defense," related Coach Dodd. The occasional shot that was taken at the CIT goal was handled nicely by Brian Bircumshaw. Mike Greene and Phil Rodriguez centered the offense while Donovan Stevens passed out the assists. Freshman starter Brian Collin handled mid tank extremely well while Sooketoo Bhuta and Steve Glista took care of defense.

By the 2nd quarter coach was substituting freely, but the level of play remained high as it was mid-way in the third quarter before Cal Maritime found a hole in the Caltech defense for a 2 point score. In the 4th quarter everyone got a chance to play with freshman Ben Wu pumping in his 2nd goal of the tournament (the first was against LMU). "A lot of credit goes to Greene who was guarding Maritime's best player and then driving down to score 6 points," said Dodd. Final score was 19-7. In the other 2 games Caltech did not fair as well losing by a wide margin. Coach Dodd put a positive spin on the losses by stating, "In both games we played a solid first half, sliding in the third quarter and then we saw a lot of our bench in the fourth quarter. If Notre Dame can lose to Northwestern U. in football, then we can take a loss to Chapman and Loyola Marymount (ranked 17th in the country)." The Tech bench showed promise with their organization and determined play.

For the 3 game tournament Greene led all scoring with 12, followed by Rodriguez with 8, Bhuta - 4, Collin - 3, Stevens, Casey Huang, and Glista with 2. Greene was voted all tournament by the coaches.

OCTOBER SPORTS CALENDAR

MEN'S SOCCER

Saturday 10/7 11:00am
Caltech at Pomona-Pitzer
Wednesday 10/11 4:00pm
Caltech at Claremont-Mudd
Saturday 10/14 11:00am
Home vs. Redlands
Monday 10/16 4:00pm
Home vs. Pacific Christian
Saturday 10/21
SCIAC Soccer Tournament
Tuesday 10/24
SCIAC Soccer Tournament
Saturday 10/28
SCIAC Soccer Tournament

VOLLEYBALL

Monday 10/9 7:30pm
Caltech at Pacific Christian
Friday 10/13 7:30pm
Home vs. Notre Dame College
Saturday 10/14
Caltech Tournament
Tuesday 10/24 7:30pm
Home vs. La Sierra University
Thursday 10/26 7:30pm
Home vs. Pacific Christian
Saturday 10/28
Home vs. Bethany College
Tuesday 10/31 7:30pm
Home vs. LIFE Bible College

CROSS COUNTRY

Saturday 10/7 9:00am
UCSD Invitational at La Jolla
Saturday 10/14 9:30am
SCIAC Multi-dual Meet
La Mirada Park
Saturday 10/28
SCIAC Championships
Prado Park, Chino

WATER POLO

Saturday 10/7 11:00am
Alumni Home Game
Saturday 10/14 11:00am
Caltech at Cal. Maritime
Wednesday 10/18 4:30pm
Home vs. Villanova
Wednesday 10/25 4:00pm
Home vs. Whittier
Saturday 10/28 11:00am
Caltech at Redlands

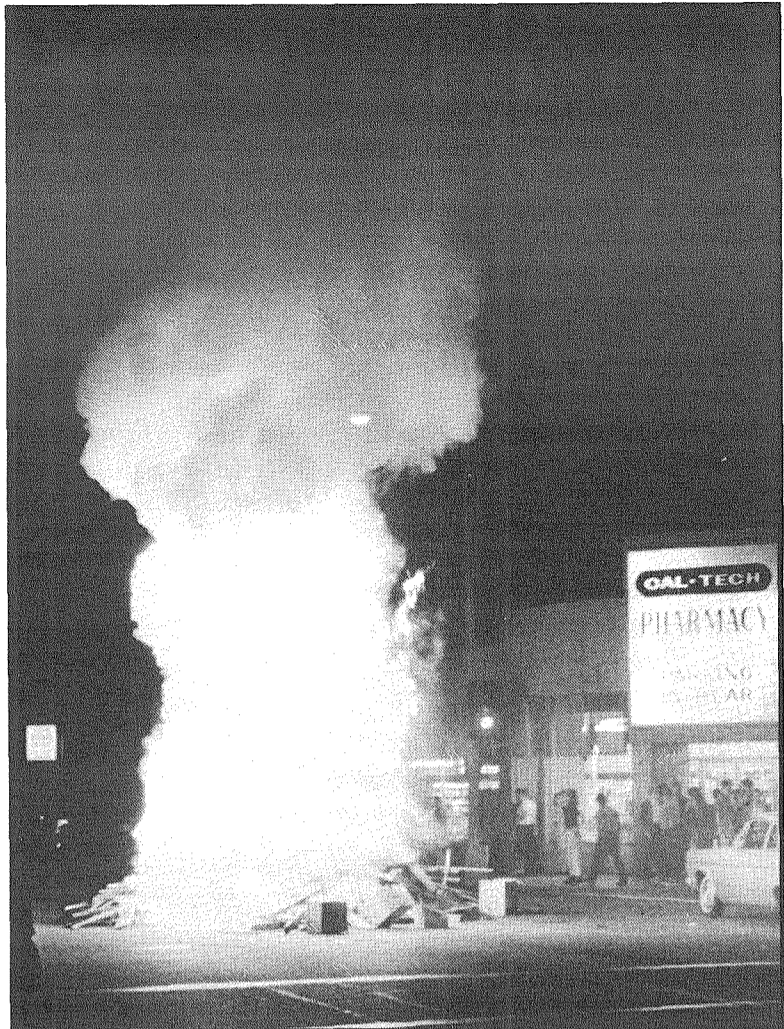
FENCING

Saturday 10/14 8:00am
Caltech at UC San Diego

Saturday 10/21 8:00am
Caltech at CSU Long Beach

Caltech Cross Country Update

by Brian Barris

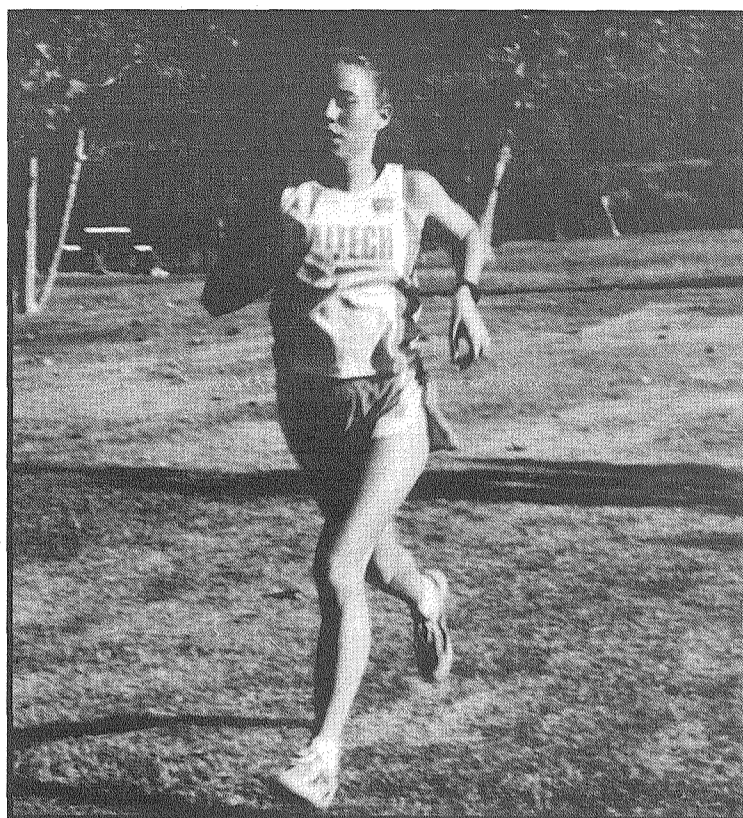


Go flaming Techers!

On Saturday, September 30, the men's and women's cross-country teams competed in the first Redlands Invitational. Both teams performed impressively, continuing the improvements already made in the early season.

For the women, Cailin Henderson was again spectacular, finishing in second place with a time of 20:44 over 5K. Janet Sun joined Henderson in the top ten, racing to a time of 23:03. Next for the women was Gretchen Larson, adding another impressive performance after sitting out of cross-country last year. The top five for the women also included Karen Bletzer and Amy Pierce. Rounding out the entries were Amy Chang-Chien in her debut performance of the season, Katie Stofer, and Amy Dullard. As a team, Caltech finished in third place out of seven entered teams.

The men were buoyed by the return of Dan Kleinman, who returned from injury to win the race with a time of 29:08. The strong middle pack of runners performed as expected on yet another weekend. Tom Meyer finished in tenth place in 31:33. Conrad "Goose" Ziesler continued to move up, placing eleventh at 31:40. Also placing in the top five Caltech runners were Brian Barris and Brad Nakatani. The rest of the entries for the Beavers were



Cailin Henderson streaks to the finish line as the top collegiate woman at the Redlands Invitational.

Harmesh Lad, Dave Richard, Chris Cary, Leonard Sung, Ben Siron, James Dooley, and Tom Collier, who was saved from the humiliation of losing to the crazy old guy simply due to the fact that the crazy old guy was not in the race. And the race marked the return of Seth Blumberg to the ranks of the Caltech Beavers. The men's team was the dominant team in the meet, acquiring only 29 points while defeating its nearest competitor by an astounding 19 points.

Although the times were not the most impressive due to the heat, unfamiliarity with the course, and illness of several key team members, both teams raced admirably, setting themselves up for the travel to UC-San Diego this week and the important SCIAC Multi-Dual Meet the following week. With the cross-country season half over, don't miss your chance to see these two exciting teams in action!

HOT.

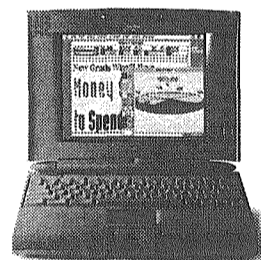
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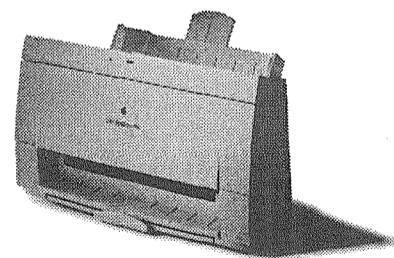
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The Caltech Y Activities Calendar: Sept./Oct. 1995

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
24	Excomm Meeting 12 Noon-Y Lounge	25	26	27	Noon Concert "Ocho-X" Winnett Quad Welcome Back Cookies on the Walk 11:30-1PM on the Olive Walk	28	
1	Excomm Meeting 12 Noon-Y Lounge	Mountain Bike Trip - 2PM	4	The Y sells Sea World, Magic Mountain, and Universal Studios discount tickets	5	6	
8	Excomm Meeting 12 Noon-Y Lounge Y Board Meeting - 5:30 PM at Dabney Lounge	Mountain Bike Trip - 2PM	11	12	The Y sells movie tix to UA, Pacific, and AMC theatres	13	
Gail Watson Art Exhibit - Dabney Lounge	Excomm Meeting 12 Noon-Y Lounge	Enviro. Racism 7-9pm in Dabney Lounge	Mae Jemison - 8pm in Ramo Aud.	Family Night Movie: "Babe" 6:30pm in the Court of Man	Noon Concert - Annie Rapid in Winnett Quad	Union Station Volunteer Trip COLLEGE BOWL	
15	16	KALEIDOSCOPE				20	21
29	30	31	22	23	24	25	
← KIDSPACE Haunted House	Excomm Meeting 12 Noon-Y Lounge	Mountain Bike Trip - 2PM	25	26	Noon Concert - Evan Charles in Winnett Quad	27	
9/16/95	22	23	24	25	26	27	
						28	

YNEWS

by Donna Ebenstein

Here's a few ways to start off the weekend right:

1) Attend the Tex Twil concert in front of Winnett at noon today, the latest in the Caltech Y noon concert series.

2) Forget your afternoon classes and go mountain biking at 2 p.m. today. Meet in front of the Y if you're interested!

3) On Saturday night at 10 p.m. go and watch the first Saturday Night Alternative Movie (SNAM) of the term, Before Sunrise. It will be shown in the Beckman Institute Auditorium, and admission is free. Come, and bring your friends, too!

We hope you have a great weekend.

NATIONAL COMING OUT DAY OCTOBER 11, 1995

come out \kəm 'aʊt\ vi 2: to declare oneself esp. in public utterance (*Webster's Ninth New Collegiate Dictionary*)

We are just a few of the diverse lesbian, gay, and bisexual individuals who are part of the Caltech/JPL community, and we're OUT and PROUD.

We invite you to join with us in recognizing National Coming Out Day.

National Coming Out Day (NCOD) was established in 1988 as a single day during the year on which Lesbians, Gays and Bisexuals were encouraged to take another step in the coming out process. This might mean coming out to a parent, a friend, a coworker or the grocery clerk.

The purpose of NCOD is to promote lesbian, gay, and bisexual (LGB) visibility. With this visibility we hope to counter ignorance and fear of Lesbians, Gays and Bisexuals, and provide inspiration for those who have not yet come out.

Locally our goal is to demonstrate in a direct and dramatic way the size and diversity of the LGB population at Caltech, JPL, and the Caltech-affiliated community at large. In addition, we hope to provide support and inspiration to those among us who have not come out, or who are just beginning the process of coming out.

In honor of National Coming Out Day we invite you to make visible your objections to derogatory "jokes" and comments about Lesbians, Gays and Bisexuals. We invite you to make visible your acceptance of Lesbians, Gays and Bisexuals.

In this light, we, your fellow students, alumni/ae, faculty, coworkers, and friends, sign this message.

Alex Murray, Technical Staff, section 388, JPL
 Bill Craven, Alum, Physics, 1987
 Jeff Levison, Technical Staff, section 334, JPL
 Shelley Diamond, Member of the Professional Staff, Biology
 Bill Irion, Graduate, Chemical Engineering
 Cate Heneghan, Staff, section 311, JPL
 Daniel Taylor, Librarian, Caltech Library System
 Justin F. McNeill, Jr., Technical Staff, section 388, JPL
 Anmarie Eldering, Alum, Ph.D. Environmental Engineering Science, 1994
 George Ritchey, Technical Staff, section 389, JPL
 Jeffrey R. Sampson, Senior Research Fellow, Biology
 David Koerner, Alum, Ph.D. Planetary Science 1995; Research Associate, JPL
 Frank Dana, Co-Op, section 394, JPL
 Kate Hutton, Member of the Professional Staff, Seismological Laboratory
 Charles E. Kirby, Technical Staff, section 314, JPL
 Robert Southworth, Staff, Caltech Library System and Computer Science
 Todd Bayer, Technical Staff, section 313, JPL

Kerry Sieh, Faculty, Seismological Laboratory
 Matthew Derer, Alum, Literature/Computer Science, 1994
 Krystal Poole, Administrative Staff, section 6410, JPL
 Rich Chin, Senior, Materials Science
 Patricia M. Schwartz, Graduate, Theoretical Physics
 Randy G. Herrera, Technical Staff, section 331, JPL
 Douglas E. Bernard, Technical Staff, section 341, JPL
 Rudolf Danner, Graduate, Astronomy
 Vicki Brown, Junior, Computer Science
 Jim O'Donnell, Librarian, Caltech Library System
 Sarah Wynes, Technical Staff, section 6448, JPL
 Sue Bunker, Caltech Y
 Roger A. Davidson, Technical Staff, section 393, JPL
 Tim Fogarty, Technical Staff, section 312, JPL
 Katy Quinn, Alum, Geophysics, 1993
 Tom Wilhelm, Graduate, Chemistry

(This space left blank for all those who feel they cannot yet come out due to societal fear and ignorance.)

There are a number of resources and organizations on campus and on Lab for the purposes of activism, support, and meeting other LGB folks:

Caltech Lesbian, Gay, Bisexual Support Group
 Open to the wider Caltech/JPL community.
 Meets the 1st and 3rd Tuesday nights of each month in the Health Center Lounge from 7:30 to 10:00.
 Call 395-8331 for more information.

JPL Lesbian, Gay, and Bisexual Support Group
 Open to all JPL employees and contractors.
 Meets 1st and 3rd Fridays of each month (Speaker on 1st Friday) in 111-117 (Library Conference Room) from 12-1
 Call Randy G. Herrera at 818/393-0664 for more information.

Caltech LesBiGay Union (CLU)
 Open to the wider Caltech/JPL Community.
 Meets monthly at the Student Activity Center
 Call 585-0409 for more information.

Los Angeles Gay & Lesbian Scientists (LAGLS)
 Local group meeting around LA basin once a month.
 contact: Shelley Diamond, 818/791-7689
 PO Box 91803, Pasadena, CA 91109

National Organization of Gay and Lesbian Scientists and Technical Professionals (NOGLSTP)
 See LAGLS listing for information.

THE DOPE MAN

BAND OF SUSAN (OR IS IT?)

by Patricio Vela

Today's edition of *The Dope Man*, and coincidentally the first, is a sorry form of procrastination. So I have a paper to write, plus the related presentation to prepare, but which would you rather do? Research some topic which is mildly to erotically interesting (what, is this a Caltech hum paper?) or hang out with your scurvy buds in the Tech office, the only place one can bag babes on a Thursday night. Then again...

Ok, so these people keep sending us CD's and stuff. Some popular, trendy stuff and some more traditional, not so popular stuff. Considering the overall apathy around here concerning the music, I figured what the heck. So we got all kinds of things in, from folk-guitar to R&B to that trendy alternative stuff. Well, trendy depends on how sorry the band is or isn't.

Surprisingly the only thing to appeal to me in the one folk-guitar singer. (Who is this woman, you might ask?) The (cracked) CD we received was, is, and will continue to be labeled: Susan Werner, "Last of the Good Straight Girls." Looking at the picture it is not surprising; she ain't all that pretty, even by Caltech standards. But never mind that, we want to hear about this babe's music. So here goes...

At first, listen, there isn't

much to be impressed by, but then again my experience in this field is rather limited, say to about half a dozen singers (plus maybe a few more). My first thought was, like a boring Edie Brickell like person, only with a slightly deeper voice. You see, Edie Brickell sings interesting songs, buoyed by the fact that most of the tunes are really catchy. She does this great disco kinda song in her latest album, forgot the title

Some of the songs have hints of the slower Simon and Garfunkel songs.

but it is the only "Edie Brickell" CD, as opposed to "Edie Brickell and the New Bohemians," which, by the way, is really good too. But back to Susan Werner. Like I said, more boring, or maybe more toned down. Kind of mellowed out. The more I listen to it, the

more I like it. Some of the songs have hints of the slower Simon and Garfunkel songs.

In short, considering this is her first album, I am rightly impressed all things considered. As she puts out more, I expect her song writing skills to improve. The tunes will be pretty static, considering her age and all, but moving from Iowa to Philadelphia might help her a little bit. If you really dig people like Edie Brickell, Tracy Chapman, and Katie Courac (I think that's her name), then this CD is worth a sample.

-Brought to you by the MacDaddy-o of RICKETTS house.

Question of the Month: When do Plants Flower?

Answered by:
Elliot Meyerowitz,
Professor of Biology

Question

How does a plant "know" when it is time to bloom?

Answer

Many factors work together to "tell" a plant when it is time to flower, including the amount of food and water available, light, temperature, and a plant's age. But just how a plant senses many of these things remains a puzzle.

To begin with, food and water regulate flowering time in many plants. For example, starved plants often flower earlier than well-fed ones. Somehow the lack of nutrients forces early blooming, as the plant tries to reproduce before it dies an early death.

Daylight affects all plants. Most people know that green chlorophyll absorbs light to make energy for the plant, but the light sensors that influence flowering are independent of photosynthesis. In fact, it is these other sensors that tell a seedling that it is above soil after it has sprouted, so that it can turn green and begin to photosynthesize.

There are several classes of plant photoreceptors proteins that sense light. Proteins called phytochromes sense red and far-red light, and are the major sensor for greening, avoiding shade, measuring day length, sensing the proximity of other plants, and knowing when to flower. There are several related phytochromes, and scientists are just now figuring out the roles they play in these different processes.

Other proteins sense blue light and ultraviolet light, but these don't play such a key role in blooming. A protein called cryptochrome, whose structure was just figured out in the last year, responds to blue light, but the structure of the ultraviolet light-sensing protein remains unknown.

Plants also sense temperature, and we know from experience that

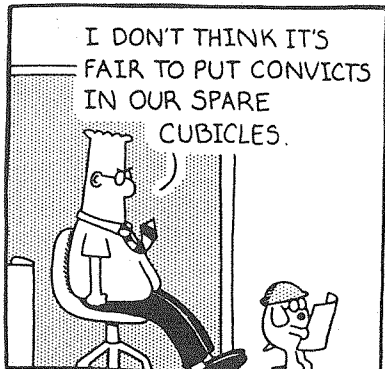
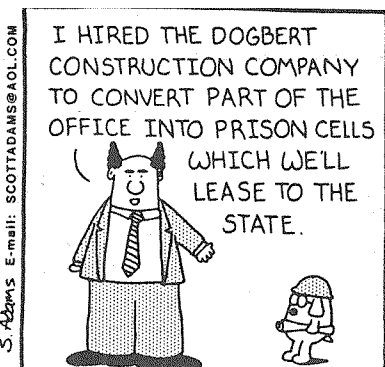
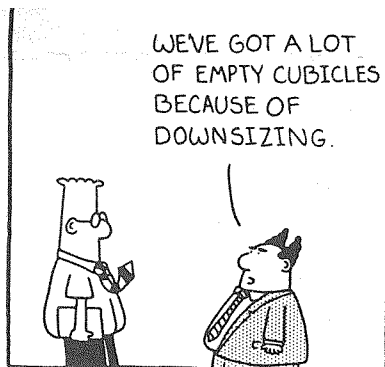
they won't bloom until the air and soil are warm enough, but almost nothing is known about how they do this. Some scientists study how plants tolerate cold, but how the plants sense the cold and respond to it is unknown. Similarly, measurements of cotton leaves on hot days have shown that they maintain a constant temperature by regulating the rate at which water evaporates through stomata—the tiny pores in the leaf—but again, no one knows how they do this.

Temperature is also sometimes important to blooming in a way that is not as obvious. Some plants have to go through a cold spell, called vernalization, before they will flower, no matter what other conditions are like. For example, my plum tree only produces plums during the summer after a cold winter here in Pasadena. There is quite a bit of research in this field right now, but so far no one understands the molecular mechanism behind it.

The plant's age also plays a key role in some species. It is a simple matter of maturity, though how plants measure time is not known. Botanists use the term juvenility to describe youth in plants, and it goes away gradually. In some plants the leaves gradually change shape, in others the leaf texture changes, until the plant is fully mature and able to flower.

For most common garden plants the major factors are food and water, light, temperature, and age. But for some plants there are additional critical factors that are a complete mystery. Some species of bamboo, for example, flower only at long intervals, with all plants flowering at the same time. The signal in this case is unknown.

This is a monthly feature produced by the Media Relations Office at the California Institute of Technology, in collaboration with Caltech's faculty, to answer commonly asked or particularly intriguing questions about science and the natural world. The Media Relations Office will accept any questions you may have.



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Hurry!

WORK FOR THE MOSH

We are looking for students who would be interested in helping with serving and cleanup for the MOSH dinners for groups of faculty and students in Steele House. Please contact us at Winnett 115 or extension 6194 if You are interested.



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CALENDAR

Theater

Winner of a Tony award (best musical) and showcase of 16 hit songs when it first came out, the ever wonderful musical *Guys and Dolls* has come to the San Gabriel Civic Auditorium nightly through October 22nd. Shows start at 8 p.m. and from \$15 a seat. Cheap!

At the Highways, 1651 18th Street, Santa Monica, Rinde Eckert plays in the new musical play *The Idiot Variations* from Wednesday, October 18th through Saturday, October 21st. Highly acclaimed, this play employs the "thin line" between the genius and the lunatic through performance and music.

On Campus, The Flying Karamazov Brothers will present their new production *Club Sandwich*, a parody of detective movies from the 1930's, on Saturday, October 21st at 8pm in the Beckman Auditorium. The Brothers provide an evening of joking, singing, juggling, and cavorting. (OK, so I stole that from the press release...)

On the flip side, playing currently at the Zephyr Theater for a limited time is the play:

Making Porn: The Gay Porno Industry. Tickets are for sale via phone at (213) 660-tkts. Their warning is that nudity and strong language are used in this show, mine is that a good porn is cheaper anyhow. Actually, scratch this. I don't recommend it at all.

Art

You may or may not know it, but Old Pas is a real center for the arts: in fact, there is even a self-guided tour open to the public that winds itself right down the heart of this art hub. Visiting nearly a dozen art galleries and unusual exhibits, the Art Walk can be joined anytime between 5 and 10 p.m. So if you are in the mood for the arts, or just want your date to think so, jump onto the tour and learn a little enlightenment.

Comedy

The Smothers Brothers are making a coming to the Alex Theater this October 6th and 8th! This very funny duo is blamed for starting cynical comedy as we know it and prove they have not outlived their times in these shows next week. Tickets start at \$21.50, but make sure not to bring your portable micro-

wave to the show — and remember that you too will be as old as most of the audience some day.

Film

Well, there's *Quiz Show* if you're really are bored or don't have a car, but if you're mobile and willing to travel, Abel Ferrara's newest, *The Addiction*, is a must. I haven't yet had a chance to see (actually, I don't yet have a car...), but this seems a definite Tech movie. The script almost seems superficially cheesy: vampires, but this B&W flick is valued in its details. A college philosophy student loses expression to experience as her struggles between good and evil materialize when she gets kissed by the undead. Called "transcendently beautiful" by the *LA Weekly*, the film is not all philosophy, but also fun, frolic, and thought. It's venues are limited, but so are the attention spans of most audiences. At least you won't be quizzed.

Restaurant

If you palate screams for the exquisite and exotic, I have been highly recommended by

many to a Middle Eastern Restaurant called Sahara. Reasonably priced, the food ("a vegetarian's delight!") is delicious, the drive, walk, or bike ride short. They have delicious falafel and hommus (not at all like the stuff you get here). Located at 2226 E. Colorado Blvd.

Concerts

I have decided sincerely that this job pays too little because I am fully able to talk up dozens of shows each week and have not yet been able to afford to go to a single one. At least before I started this column, I could stay in a state of blissful ignorance as to what shows were coming through. So, if you really like my column, send me money. Or tickets. Or send this section to Ticketbastard. Or the only events you'll see will be for Polka revivals. Anyhow, October is a good month to be alive if you can afford concerts: R.E.M. Tour '95 tickets are still for sale! "Upper Tier" tickets are still available through ticketmaster for the October 30th and 31st shows at the Arrowhead Pond in Anaheim and the November 1st show at the Great Western Forum. Big Audio Dynamite is holding a

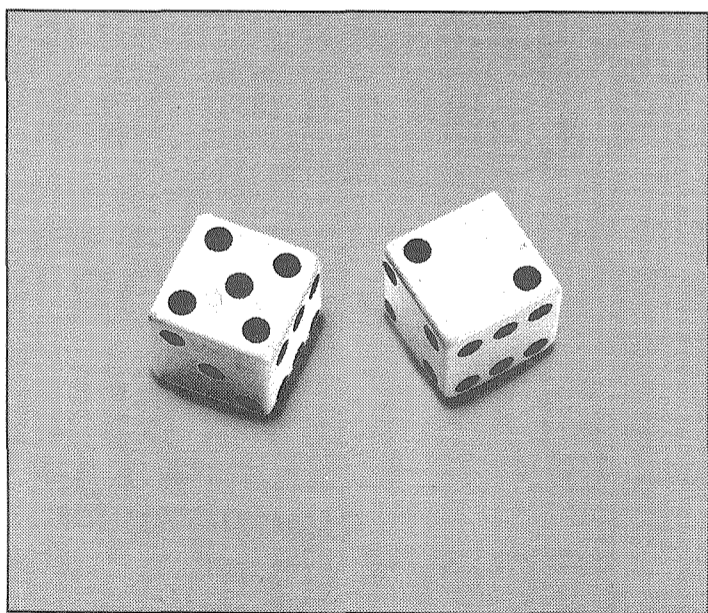
concert on Friday, November 3rd at 8 p.m. at the Hollywood Grand, but be warned: BAD will likely be playing songs from their new album *F Punk*, which I heard, but won't even bother to review (the songs were so slow and so effortless that I guarantee the only moshing will be among those desperately scalping their tickets at the door). Other shows: Rancid with Lunachicks and Jughead's Revenge on Saturday, November 11th at the Hollywood Palladium; Fugazi November 8th and 9th at the Shrine; My Life With The Thrill Kill Cult with Eve's Plum on Friday, October 27th at 8 p.m. at the Hollywood Grand; björk with Goldie on Wednesday, November 1st at the Hollywood Palladium; and a lot of the bands that I wrote of last week, including some Boingo tickets from what I hear.

Non-definable

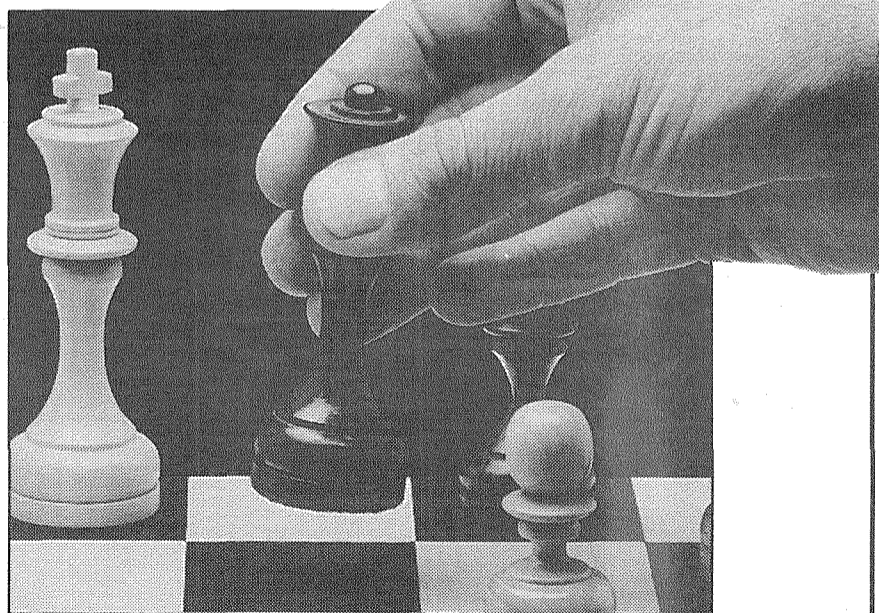
Talking Heads' David Byrne is appearing at Vroman's Wednesday 11th from 7 p.m. to sign his new book *Strange Ritual*, which is being acclaimed as an insight into "his amazing, bizarre and insightful look at life" through a col-

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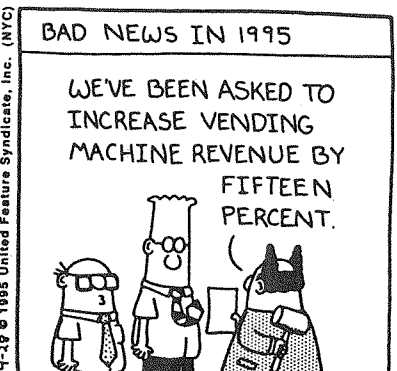
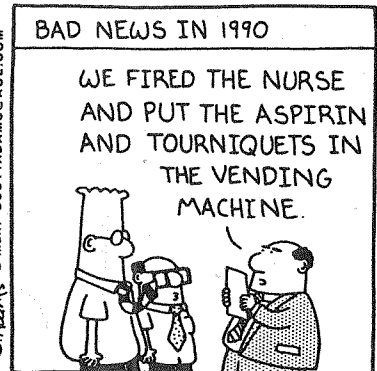
CALENDAR

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lection of photographs, poetry, lyrics, and commentary. If not for you, then go to hear words from a very strange throat.

Outside Activities

The Y will be having a Mountain Bike Trip from 2 p.m. on this coming Tuesday. Actually, they'll be having them for the majority of Tuesdays this term, so no one has an excuse for not attending at least one, except that they don't have a bike, or don't know how to ride one, or... For the real dates, visit the Y and find out when and to where the trips are this term.



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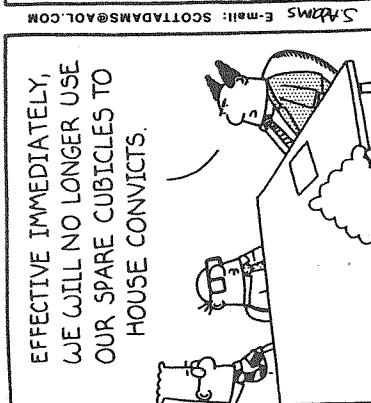
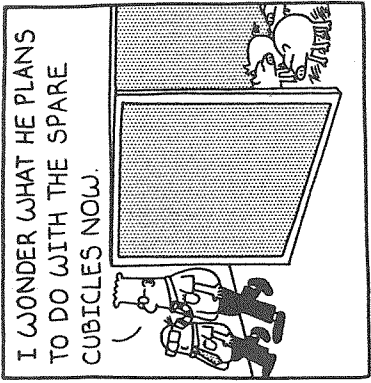
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**Class Additions/
Changes**

Three **H&SS** courses have been added to this fall's class offerings. While Ec 161 has been moved to third term, Professor Caroline Fohlin will be teaching Ec 162, Monetary Theory this fall. An organizational meeting will be held on Tuesday at 1:00pm. Professor Martin Ridge is offering H 146, American Biography Tuesday evenings at 7:30pm. H 161, Culture and Society in the English Speaking World, 1660-1830, will be taught Thursday evenings at 7:30 by Professor John Styles, a visiting professor of history from Victoria and Albert Museum in London. This course will consider the cultural dimension of the rags-to-riches transformation in English fortunes between 1660, when England was a minor European country, to 1830, when it had become the dominant European nation and the center of the world economy. A full schedule of courses to be taught in the Humanities & Social Sciences Department in the 1995-1996 year are available in 228 Baxter.

Events

‡**Men's Volleyball Club** tryouts begin this October 10th; The team club will be practicing Tuesdays and Thursdays from 8 to 10pm in Braun Gym this year; with Andreas Masuhr as head coach, they are looking forward to a successful year and "a lot of good drills." Andy Berkin is the new manager, and can be contacted at 354-0728 (work) or by e-mail at berkin@krazy.jpl.nasa.gov for more information.

‡The first movie to screen in the **German Film Series** (emphasizing Swiss films this year) is Hohenfeuer ("Alpine Fire") (1985) on Wednesday, October 11th at 7:30pm in Baxter Lecture Hall. This film features English subtitles and is presented free of charge; for more information, please call x3610.

‡The **Entrepreneur Club** invites you to attend their "pizza and fun" meeting on Thursday, October 12th, at 6:15pm in Winnett Clubroom #1. The club will be discussing upcoming entrepreneurial events and would like to have your input. For more information, write Jessica at jessica@cco.

‡Want to get yourself in shape? In one day? Too bad. But you can help yourself along the way while helping the Allstate Foundation, Catholic Big Brothers and Big Sisters take a bite out of crime by running in their **America Against Crime 5K Race** on Saturday, October 14th at 8am. Benefiting many local one-on-one mentoring organizations, the run will merry-go-around Griffith Park. The run also is in need of volunteers to help set-up and run refreshment stands, as well to participate in many other run support jobs on the run day. In order to register to run or volunteer, call (213) 251-9800.

‡The Y presents "the Varsity Sport of the Mind": **College Bowl Campus Championship** on October 21st in the Winnett Club Room 1. To sign-up in this competition, write Craig Leff at cleff@haleakala.jpl.nasa.gov or call the Y at x6163 before October 14th.

Announcements

‡ denotes a new announcement.

**From the
Counseling Center**

‡Are you looking for help in dealing with procrastination? A six-week Procrastination Group for graduate and undergraduate students will be presented beginning Tuesday, October 10th. The group will provide an opportunity to discuss procrastination difficulties, to examine the psychological issues which may contribute to procrastination, and to learn ways to begin to overcome procrastination. Like putting down this paper right now and doing your homework which is due tomorrow. Kevin Austin, Ph.D., Director of the Student Counseling Service, will lead the group with staff member Jamil Ali, M.A. The group will meet on Tuesdays from 3:15pm to 4:45pm in the Health Center Lounge. For more information call Virginia at x8331 to arrange to meet one of the group leaders prior to beginning the group. This meeting is required in order to attend the group. So don't procrastinate! Call today!

The Counseling Center is offering a **Women's Therapy Group For Graduate Students** to begin in the fall term. The group is designed as an expansion of the women's group offered last year which provided an opportunity for women to examine a range of personal and professional issues in a confidential setting. Through the group discussion, women will be able to examine their patterns relating to others, their family and intimate relationships, and challenges they experience in achieving success. If you would like more information or would like to schedule a pre-group interview, please contact the counseling center at ext. 8331 by October 13th. The group will be held on Tuesdays beginning October.

Looking for a safe and supportive place to discuss issues such as coming out, being out, dealing with family, coping with a homophobic culture, and being GLB at Caltech? Want somewhere just to make new friends? We invite you to our first meeting of this term of the **Gay, Lesbian, & Bisexual Support Group** on the third of October from 7:30 to 10:00pm in the Health Center lounge. We will be showing the video, *Serving in Silence: The Margarethe Cammermeyer Story*, and discussing any topics that feel relevant. This is a confidential meeting, and attending does not imply anything about a person's sexual orientation—only that he or she is willing to be supportive in this setting. The group usually discuss a particular topic relevant to the group that week and then move on to announcements and general discussion. Refreshments are served. We meet regularly on the first and third Tuesday's of each month from 7:30 to 10:00pm. If you would like more information, please call 395-8331.

The Women's Center and the Counseling Center are co-sponsoring a confidential **Assertion Training Group** for both graduate and undergraduate women. The group will focus on developing assertion skills to be used in professional settings. Goals of the group will include: developing a conceptual understanding of aggressive, non-assertive, and assertive

‡The American Friends Service Committee will be holding an **International Holiday Fair** on Saturday, November 11th, at Friends House, 980 N. Fair Oaks from 10:00am to 4:00pm to benefit "the peace and justice programs" supported by the AFSC. This fair will include unique hand made jewelry, clothing, ornaments, gifts, paintings, and photographs from the four corners of the world: Africa, Asia, Central America, and North America.

‡The Monrovia Arts Festival Association will be holding its annual **Fine Arts Festival** exhibiting the works of over 120 artists on October 21st and 22nd between 10am and 5pm at Library Park, Monrovia. Admission is free.

Notices

‡The **Big T** wants you to be part of this year's yearbook staff. It will be the 75th Diamond Anniversary edition, so don't miss the excitement! If you are interested in working on the Big T, please come to the first meeting of the year on this Wednesday, October 11th, at 10pm in SAC 25. For more information, please write Jessica at jessica@cco.

‡The **Totem**, Caltech's literary magazine, can now be found on the WEBB at <http://www.cco.caltech.edu/~totem>. Check out the electric version of the great art and poetry of the Caltech community and drop us a line to tell us what you think! Also, there are still extra copies of last year's Totem left; come by Dabney 27 if you'd like one. The Totem is open to the entire Caltech community, and accept any creative work, from visual arts to poetry and essays to musical composition. Every submission will be carefully considered. You can submit your masterpieces to totem@tech.caltech.edu, or mail them to MSC 568. For more information, call 584-7141.

The **Registrar's office** will be open during lunch this year. Now you can come by for one more hour each day (12:00 - 1:00 p.m.) to turn in your yellow cards, get transcripts, pick up a catalog, or just hang out.

The **Caltech Folk Music Society** is seeking volunteers. If you like the sound of acoustic guitars, singer-songwriters, tight harmonies, and a whole host of other things that get lumped into the term "folk music," they invite you to give them a call at 791-4583 for more information about volunteering or to get your name on the mailing list to find out about upcoming events.

All experienced and perspective **Badminton** players are invited to come and play in the Brown Gymnasium on Friday and Monday Mornings from 9:15am to 12 noon BYOR (i.e., bring your own racket). For more information, please call Cherrie Leighton at 355-6158.

behavior; practicing specific behavioral skills (eye contact, voice projection, body language); strengthening cognitive skills including gaining an understanding of rights and appropriate behavior; and problem solving specific difficult situations. Jan Aura, Ph.D. and an intern from the Counseling Center will co-facilitate the group which will be held for eight weeks at the Women's Center on Mondays from 12:00-1:00pm starting October 2nd. If you would like more information or you would like to sign up for the group, please contact the Counseling Center at (818) 395-8331.

Seminars

‡The Caltech Management Association presents Grace M. Robertson, Vice President of Design and Technology at Douglas Aircraft Company, who will be giving a talk entitled **"Breaking Through Barriers: Lessons Learned In Applying Systems Engineering In Different Environments"** on Wednesday, October 18th at 4:30pm in the von Karman Auditorium.

‡Dr. Kate Schecter, Assistant professor of Political Science at the University of Michigan, will be giving a Science, Ethics, and Public Policy Seminar entitled **"Health at Risk: The Crisis in the Former Soviet Union"** on Thursday, October 19th, at 4pm, in the Judy Library, 110 Baxter.

Competitions

Disc Makers is giving a chance in a lifetime for unsigned bands to get signed! The **Disc Makers' 1995 Los Angeles Unsigned Band World Series** is open to all unsigned Southern Californian bands. The six finalist of this competition will be given the chance to perform for music industry's leaders at the Troubadour on November 30th, while the top band will be given the chance to record their album to be mastered, manufactured, and promoted as a major-label-quality CD (a prize valued at \$10,000). The contest is open to all Southern California bands that submit either a demo or CD by November 9th, along with a \$15.00 cover charge to: Disc Makers' 1995 Los Angeles Unsigned Band World Series, 213 W. Alameda, Suite 101, Burbank, Ca 91502.

**Fellowships and
Scholarships**

From the Deans Office.

An Urgent reminder to all interested seniors: A one to three-page project proposal draft for the **Watson Fellowships** is due in the Deans' Office (102 Parsons-Gates) on this coming **Monday, October 9th, 1995**. Keep in mind that successful proposals generally have a single topic of study or investigation that reflects a student's long-standing interest in that area. The Watson Foundation provides fellowships of \$16,000 for a year of independent study and travel after graduation. They are designed to encourage an informal break in the normal sequence of undergraduate-postgraduate education and are a marvelous opportunity to travel outside of North America. Caltech nominates 2 seniors each year for this fellowship.

Applications are available in the Deans' Office, 102 Parsons-Gates for the **Churchill Scholarship Program**. The one-year graduate study award is available to graduating seniors and graduate students. It includes full tuition, \$6,000 living allowance for a full-year program, and a \$500 travel allowance. At current exchange rates, the value of a Churchill Scholarship is approximately \$20,000. Churchill College is a predominately engineering and science-oriented college at Cambridge University. Applicants must be U.S. citizens between the ages of 19 and 26. The deadline to submit a complete application to the Deans'

Office is **November 13, 1995**. Caltech can nominate two candidates to the Churchill Foundation.

The **Harry S. Truman Scholarship Foundation** awards scholarships to juniors who have outstanding leadership potential and intend to pursue careers in public service. If interested, please stop by the Deans' Office, 102 Parsons-Gates for more information. The deadline for receipt of nominations for this scholarship is the **first of December**.

From the Financial Aid Office: Applications and/or information on the following and additional undergraduate scholarships are available at the Financial Aid Office at 515 S. Wilson, second floor. All qualified students are encouraged to apply.

The **California Park and Recreation Society Aging Services and Activities Section** announces its scholarship competition. Undergraduates and graduates may apply for the \$250 awards. Applicants need to be full-time students in the areas of recreation, leisure studies, or in an aging-related field. Applicants also must have GPAs of 3.0 or above and must have financial need. The deadline to submit applications is **November 30, 1995**.

The **American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc.** is offering nonrenewable scholarships in the amount of \$2,500 to full-time engineering students in the final two years of undergraduate study. Students must have a GPA of 3.25 or above and must be involved in the fields of heating, ventilation, air conditioning, or refrigeration, or in related areas including indoor air quality, energy conservation, human comfort, or HVAC system design, operation, or maintenance. Applications are available at the Financial Aid Office, and are due **December 15, 1995**.

The **Elie Wiesel Foundation for Humanity** is sponsoring its annual essay contest for full-time undergraduate juniors and seniors. Students are challenged to examine and analyze urgent ethical issues in essays of 3,000 - 4,000 words. First prize is \$5,000, second prize is \$2,500, and third prize is \$1,500. Essays **must be postmarked by January 12, 1996**. For essay guidelines and additional information, come to the Financial Aid Office.

The **American Concrete Institute (ACI)** is offering several awards. The Peter D. Courtois Concrete Construction Scholarships are two \$1000 awards for undergraduate study in concrete construction for the 1996-97 academic year. Eligible students must be enrolled at least half-time and must be seniors in 1996-97. The application, available at the Financial Aid Office, with all required supporting documents is due **January 15, 1996**. The ACI Committee is also offering one **ACI-James Instruments Student Award** in the amount of \$800, for original student research on non-destructive testing of concrete. Applicants must submit a technical paper describing their research. The award is open to undergraduates or graduates, and the research work must have been completed within two years of the submission date. Completed technical papers must be received by ACI Committee no later than **November 30, 1995** at the following address: c/o Dr. Allen Davis, Madsen, Kneppers and Associates, 9 East Exchange Place, Suite 900, Salt Lake City, UT 84111, (Telephone (801) 533-2888). ACI is also sponsoring three different competitions: the Concrete Cube Competition, the Concrete Egg Protection Device Competition, and the Concrete Projects Competition. For complete rules, call the ACI Education Department, at (313) 532-2600.

‡**Glamour Magazine** announces its **1996 Top Ten College Women Competition**. Women who are currently full-time juniors are invited to submit applications to receive one of ten awards consisting of a cash prize of \$1,000, the opportunity to meet with top professionals in your field, and national recognition in *Glamour's* October 1996 issue. Applications are available in the Financial Aid Office and must be completed and **postmarked no later than January 31, 1996**.



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