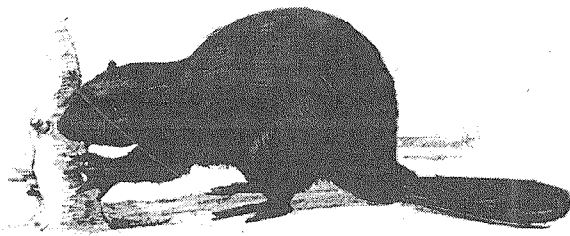




Do you know what state this is?

Art looks at the decline in map-reading skills.

see page 6



The Prefros Are Coming



# THE CALIFORNIA TECH

VOLUME XCVII, NUMBER 22

PASADENA, CALIFORNIA

FRIDAY, APRIL 12, 1996

## Stephen Hawking Dashes Hopes of Time Travel Fans

BY JEREMY WONG

On Tuesday 9 April, Professor Stephen Hawking visited Caltech for the second time this year, the present occasion to deliver a lecture at the Beckman Auditorium entitled "Space and Time Warps."

The audience reveres the legend; no other hypothesis accounts for the inspired fervor which filled the golden-ceilinged auditorium. Clippings of speech here and there indicated that this was a new audience transformed from the one a few feet

and a few minutes away in space-time, standing outside. A few had suddenly become enlightened and well-versed in cosmology and general relativity. A standing ovation greeted the Hawkings when he entered the room.

Hawking stated that string theory is our best hope for uniting quantum theory and general relativity. He emphasized that time travel cannot be ruled out. He mentioned two possible accommodations. The first is the consistent histories view—one has to find a consistence solution of the equations even if space-time is so

warped, that travel into the past is possible. The second is the alternative histories view, proposed by David Düch, in which the universe is postulated to have a large number of histories. Hawking forced himself against his wishes to support the consistent histories view, although he realized that would entail determinism.

The lecture became more conjectural as it progressed. He told of his "chronology protection conjecture"—that time travel is possible only microscopically.



Stephen W. Hawking, PhD

SEE HAWKING ON PAGE 5

## Alternative Spring Break a Success Students do community service for Navajo town

BY KAREN BLITZER

The first ever Caltech Alternative Spring Break Program began early the morning of March 26, as 4 vans laden with food, tools, computers, and 22 somewhat sleepy, yet eager, participants left Caltech heading east towards Arizona.

Five staff, two graduate students, and 16 undergraduate students undertook the 12 hr journey to Teesto, Arizona in hoping to have fun and do some useful community service work. Teesto, located about 45 north of Winslow, Arizona, is a community of about 400, and part of the Navajo Nation.

Starting an Alternative Spring Break Program has been a long-term goal for the Caltech Y, but expectations of low student interest kept the project in the planning stage. Once made aware of the program, though, a surprisingly large number of students expressed interested. The Caltech Y, the Office of Student Affairs with the help of a representative from Walking Shield, an non-profit organization devoted to helping Native Americans, began making arrangements with the Navajo living in Teesto. After a preliminary visit, ideas soon became concrete plans.

As Athena Castro explained, the Alternative Spring Break Program allows participants to "gain a broader understanding of the world around them while making a tangible



PHOTO BY SUE BUNKER

Myfanwy Callahan and Renny Talianchich work in the Chapter House kitchen.

difference in the community."

The group spent two full days, March 27 and 28, working on projects in Teesto. The participants slept on the floor of the Teesto Chapter house at night, and worked on both indoor and outdoor projects during

*"Many of us went there expecting to do things for them, but they were working right alongside us."*

—GREG STEIERT

ing the day. One group of students laid out and built a fence around Teesto's basketball and sand volleyball courts. Despite the windy climate and blowing dust, the fence construction went smoothly, with the Navajo and Caltech stu-

dents working together.

Another group of students attempted to install some Caltech-donated computers. This project became frustrating when both software and hardware problems began cropping up. Although key parts were missing, through the team's hard work, and a few last-minute Fed-Ex packages containing important components, Caltech was able to leave 3 fully operational computers and two printers in the Teesto Chapter House. The computers will be used in the Teesto's youth and seniors programs. Students also worked in the kitchen preparing lunches with the Chapter House staff, replaced damaged ceiling tiles, and began a fence around a propane tank located behind the Chapter House.

SEE NAVAJO ON PAGE 2

## Admiral Inman to Address Graduates

BY JIM CHENG

Recently chosen by the Class of 1996, Admiral Bobby R. Inman will address the graduates at this year's commencement ceremonies on June 14.

Admiral Inman serves on Caltech's Board of Trustees, where he has served since 1989. Inman, who has served a number of decades in the Navy as well as in several intelligence agencies, is currently an Adjunct Professor at the LBJ School of Public Affairs and at the Graduate School of Business of the University of Texas at Austin.

Born in Rhonesboro, Texas in 1931, Inman attended the University of Texas at Austin, where he received his B.A. in 1950. He subsequently joined the Naval Reserve, and received his first commission as an Ensign in 1952. In the next nineteen years, Inman would serve numerous assignments both at sea and ashore in Naval Intelligence.

Graduating from the National War College in 1972, Inman was promoted to Rear Admiral in 1974, and to Vice Admiral two years later. In 1981, he had attained the rank

of Admiral, becoming the first Naval Intelligence Specialist to reach this rank.

In these years, Inman had served as Director of Naval Intelligence, Vice Director of the Defense Intelligence Agency, Director of the National Security Agency, and Deputy Director of Central Intelligence.

Retiring in 1982, Inman turned towards industry and served as Chairman and CEO of Microelectronics and Computer Technology Corporation in Austin, Texas from 1983 up until 1986, and from 1986 to 1989, as Chairman, President and CEO at Westmark Systems, Inc.

In addition to his service in Caltech's Board of Trustees, Inman is also a member of the Board of Directors at Fluor, Science Applications International, Southwestern Bell, Temple Inland and Xerox. He is also a Trustee of The American Assembly, the Center for Excellence in Education, and Southwestern University. Admiral Inman is also a member of the Executive Committee of the Public Agenda Foundation and is a member of the National Academy of Public Administration.

### IN THIS ISSUE

#### THE USUAL STUFF

Announcements.....12  
DILBERT@.....7  
The Outside World.....2  
Y News.....4

#### THIS WEEK'S FEATURES

ARC Minutes.....5  
Baseball Preview.....9  
Falme On.....6  
Möbius Strip.....3  
Trust Me.....4  
Volleyball.....9

# The Outside World

by Myfanwy Callahan

**LINCOLN, MT** – More evidence was assembled last weekend to connect Theodore J. Kaczynski to the 16 Unibomber bombings since 1978. A completed bomb found in his cabin closely resembles one of the bombs used most recently in a Unabomber attack.

**PEORIA, IL** – A Mitsubishi automobile plant was charged with hundreds of cases of sexual harassment Tuesday, making it one of the largest sexual harassment cases ever to be brought before the federal court. Women assembly line workers claim to have been harassed multiple times in the last five years; in some cases, daily.

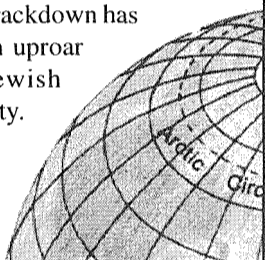
**SLAVINOVICI, BOSNIA-HERZEGOVINA** – Six Muslim men emerged from the hills of eastern Bosnia last weekend to tell a horrifying account of the attack of Srebrenica. Last July an estimated 3000 Muslim men were killed in the attack. These six men who remained in hiding for nine months were just a few of the 8000 missing persons that resulted.

**MONROVIA, LIBERIA** – Starting Tuesday, the U.S. government began to evacuate Americans from Liberia as factional fighting

arose. 470 Americans associated with the embassy as well as several hundred Liberian citizens who hold American passports will be offered a chance to leave the country which is currently engaged in a civil war.

**KIRYAT SHEMONA, ISRAEL** – Shiite Muslim guerrillas fired rockets at northern Israel Tuesday, wounding 36 people. The Hezbollah group said the attack was in retaliation for a land mine explosion which killed one and wounded two boys. Israeli forces responded with air raids and tank fire against 17 Shiite Muslim villages.

**TORONTO, CANADA** – The Quebec government has blocked distribution of kosher foods labeled only in English, crimping Passover supplies. For ten years the government has waved the law requiring products sold in Quebec to be labeled in French and English for the Passover goods because they are imported from the U.S. and Israel. The present crackdown has caused an uproar in the Jewish community.



# NAVAJO: Techers Build Sweat Lodge



PHOTO BY SUE BUNKER

Caltech Alternative Spring Break participants shiver in the snow.

CONTINUED FROM PAGE 1

The group gained valuable insight into the Navajo way of life. Several of the men, and most of the women, had the opportunity to participate in a "sweat", a Navajo spiritual ceremony. Students also helped build a sweat lodge, the place where the ceremonies are held.

"Being introduced to a sacred ceremony such as the sweat was very special and unexpected," one participant commented. Participants also went hiking in the surrounding area, a beautiful desert area populated by hills and buttes.

On the last morning of the

stay, a speaker on Navajo culture talked to the group about the Navajo way and how to preserve it. Shortly after lunch on March 29, the group left, after heartfelt farewell speeches and a delicious barbecue, which included traditional Navajo dishes such as mutton roasted in an open pit, fry bread, and blue corn hash.

The Alternative Spring break was a success. Participants had fun, accomplished their community service goals, and were pleasantly surprised by the openness and hospitality of the Teesto residents.

"The immersion in local culture was amazing," a student

professed. The group worked hard, but had opportunities to see the comet (Hyakutake) in an area with little light pollution, interact with other Caltech students, play in the brief, unexpected snowfall, and drive across Arizona in a 4-van word-game-playing CB caravan.

Greg Steiert aptly summed up the experience: "Many of us went there expecting to do things for them, but they were working right along side of us making the experience more powerful because we were working *with* them and not *for* them and this reminded us just how similar we all are."

# Deans Seek UCCs for Frosh Camp

The Deans are interested in hearing from you if you would like to attend New Student Orientation (Camp) as a UCC-at-Large and have not already been selected by your House. Camp is scheduled for Wednesday through Friday, Sept. 25-27, 1996. The Deans are accepting nominations for these seven Upperclass Camp Counselors-at-Large positions through Monday, April 22, 1996. We will also need to bring some additional student participants to camp to perform special functions such



as audio visual specialist, kitchen coordinator, and photographer.

If interested, submit a brief written description of your unique qualifications (campus activities, talents, experience with audio visual assisting, photography, etc. and why you want to attend camp) as a UCC-at-Large and/or Deans' Helper to the Deans' Office, 102 Parsons-Gates, by Monday, April 22, 1996. We hope, with your help, to add to the diversity of the Camp experience for the new students.

Also, upperclass students participating in new student orientation must be eligible for fall 1996 classes by the June UASH meeting or they will not be able to attend camp in September. If you have questions about this, please see one of the Deans.

## Tenth Annual Concert All Mozart



Fantasia in F, K. 608  
Divertimento No. 3 in B-flat, K. 439c  
Caltech Chamber Music Program  
Delores Bing, Director

Divertimento in D Major, K. 136  
Caltech Chamber Orchestra  
Allen Robert Gross, Conductor

Solemn Vespers, K. 339  
Caltech Chamber Singers  
Donald Caldwell, Conductor

Saturday, April 13, 8 pm Sunday, April 14, 3 pm  
Dabney Lounge, Caltech

Free Admission

Come early - Concerts are always SRO!

Paris  
\$245\*

Amsterdam \$260\*  
London \$265\*  
Frankfurt \$265\*  
Rio de Janeiro \$370\*  
New York \$150\*

\*Fares each way from Los Angeles based on a roundtrip purchase. Fares do not include federal taxes or PICs totaling between \$3 and \$45, depending on destination or departure charges paid directly to foreign governments. Call for fares to other worldwide destinations. CST# 1008090-50.

Council Travel

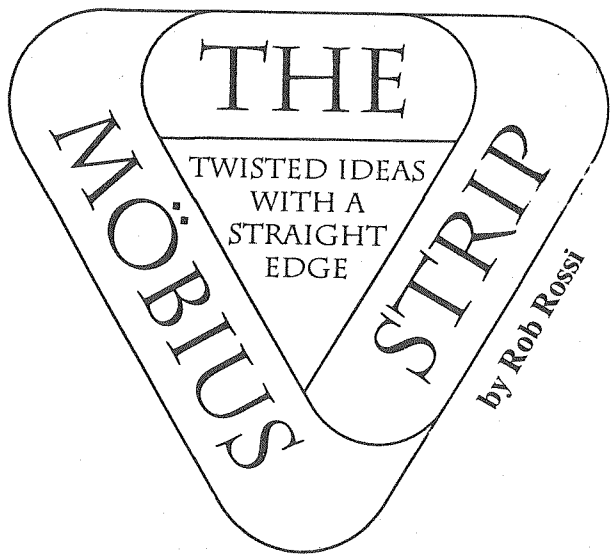
Open Saturdays 10 am - 2 pm

10904 Lindbrook Drive  
Los Angeles, CA 90024

818-905-5777

<http://www.ciee.org/cts/ctshome.htm>

EURAILPASSES  
ISSUED ON-THE-SPOT!



**Politics as Usual** – Well, I've been real busy this year and haven't been spewing forth the usual blather, as was my custom of old. What could possibly be pulling me back out of my shell??? Politics! It brings out the irrational lunatic in all of us, especially in the candidates running for office. (Although in some cases I wonder if they are composed of anything but...)

My "tirade du jour" centers on a recently-developed icon of American love and worship, the almighty credit card. If I were just sore at a lack of fiscal responsibility on the part of the American public or the U.S. government, I'd have no need to pain myself putting the issue into words—it's already been written about extensively. No, I've stumbled upon a thought I just can't believe hasn't crossed the mind or pen of the press or some politician. It must just not be a good topic to talk about, because it generally insults the audience. (That would be you... prepare to be insulted then, hmmm?)

I think it's fair to say that the vast majority of credit card holders in this country no longer run up and support exorbitant outstanding charge card balances. This has led to the common credit card justification, "I never carry over a balance, so my credit card doesn't cost me anything." *Riiiiighhht*. So it must be some other suckers out there that DO carry big balances that pay for everyone else, ya' think? But if you look at what's happened as of late—the precipitous drop in interest rates

and the simultaneous decrease in consumer debt—that theory just doesn't make sense. Even more so in light of the steady increase in the gross profits taken in by this nation's credit companies. (American Express pulled down a cool 1.5 billion dollars in profits last year, and is projected to make 1.7 billion this year!) It led me to ask "Hey, what the hell's going on around here?"

That brought to mind the fact that credit card companies exact a fee from retailers for every transaction carried out on a credit card. This fee generally runs from 3% to 5% of the amount charged. (The higher percentages make those 1% cash-back offers possible, and also make the cards having them unpopular with retailers... sound familiar?) Four percent doesn't sound like much... and it IS pretty convenient to "charge it." So much so that many people are biting at the gimmicks the credit card issuers are using to try to get people to charge more things, like gasoline and groceries, for which they used to pay cash. But look at that 3 to 5% a bit more carefully. That's four percent of EVERY PURCHASE you make with a credit card. If you charge just about everything, especially your major pur-

chases, and you spend about as much as you earn, that's four percent of your annual salary. How would you feel about a four-percent hike in your income tax? I thought not. "But I don't pay that four percent, dummy! The store does!" C'mon now, wake up.

The most insidious form of tax known (to me, anyway) is the so-called value-added tax. It hasn't yet found its way into the United States, at least not into the government, but it is widely used in Europe, and it is almost ubiquitous in developing countries. Here's roughly how it works: Say I run a steel mill and sell wholesale steel to product manufacturers. You come in to buy some stainless steel for your cutlery factory, which you will use to make forks and knives for the good people of our country. In the purest form of a value-added tax, I would calculate the difference between the raw materials cost of the steel I'm selling you and the price of the steel itself—the amount of value I added to the material between buying and selling it. If the national VAT (value-added tax) were 10%, I would add 10% of this difference to my retail price, and it really wouldn't be your business to know how much it was. Come tax time, I'd send all the value-added tax I'd collected to the government. Meanwhile, you would make knives and forks, sell those to wholesalers, and charge them extra to cover the value-added tax you would owe on the difference between the cost of the steel you bought and the utensils you sold. The name "value added tax" is actually a misnomer, because in practice such taxes are generally levied without regard to the "raw materials cost" of labor or infrastructure. They thus serve as a sales tax, property tax, and income tax all at once. What's more, all too often in devel-

oping countries the calculation and defense of raw materials costs is too difficult or not worth the effort, such that each reseller often simply applies the value-added tax to the whole of their final sales price. This really fattens the coffers of the government, which might tax the same raw materials content of something like a window frame as many as five or six times! Retailers rarely add much "value" to anything in the common sense of the word, but given their 100% markups they often charge at least a VAT-sized "virtual sales tax" on half of the selling price of any item. Of course, there's a temptation on the part of the seller to under-report VAT amounts, but with an aggressive "tax police," de-

litical arena right now about the need to reduce government spending—and it's a good thing, too, because the national debt continues to spiral upward at an alarming rate. Of course, spending cuts hurt people and programs, from FICA to NASA, NPS to DEA, NSF to NEA. Every program seems incredibly important and already under-funded, at least to those who rely on them. (Of course, the others are just worthless grizzle that should be ruthlessly cut.) For their own pet programs, nobody wants to make the sacrifices needed to balance the budget. But woe be the politician who suggests increasing revenue, or \*gasp\* in other words, raising taxes. "They're too high already! I don't get to keep

enough of my paycheck as it is!" Sorry folks, but if you use a credit card and say this, you're a hypocrite. Every time you "charge it," you are casting a vote for a 4% VAT levied by your buddies, the credit card companies. Retailers don't suck up that 4% themselves, they raise their prices (everybody's prices!) 4% to cover it. We all end up paying a 4% VAT to support the convenience of credit

*"If pro- is the opposite of con-, what is the opposite of Progress?"*

— ORIGINATOR UNKNOWN,  
SEEN ON A PHILOSOPHY  
PROFESSOR'S DOOR AT THE  
UW-MADISON.

linquency can be minimized. Rather than using sales, property, or income taxes to raise revenue, many countries have found it politically worthwhile to use this less-efficient method of revenue collection because the populace doesn't notice it as much. They don't realize the government is sucking twenty, thirty, even forty percent of the nation's GNP into its coffers with an innocuous-sounding 10% VAT.

There's a lot of talk in the po-

cards for the majority of consumers, whether we have a credit card or not. Sure, your credit card is convenient... but is it worth 4% of your income? That 4% VAT could cover all of the "precious" government programs on the chopping block right now, and then some. As much as we like to gripe about it, the U.S. government provides us with some pretty impressive services for the 20% of the GNP they take in. A hell

SEE MÖBIUS ON PAGE 8

## THE CALIFORNIA TECH

Caltech 40-58 SAC, Pasadena, CA 91125  
phone: (818) 395-6153  
e-mail: editors@tech.caltech.edu  
advertising: adv@tech.caltech.edu  
ISSN 0008-1582

VOLUME XCVII, NUMBER 22  
APRIL 12, 1996

<b>EDITORS</b> Shay Chinn Samantha Gizerian Autumn Looijen Terence Moran Jim Pierce	<b>CIRCULATION</b> Lydia McKay
<b>COPY EDITOR</b> Shay Chinn	<b>STAFF WRITERS</b> Mason Porter Myfanwy Callahan Samson Timoner Jim Cheng
<b>LAYOUT EDITOR</b> Autumn Looijen	<b>FEATURE WRITERS</b> Adam Villani Jim Pierce Keith Counsell Art Clarke
<b>EVENTS &amp; NOTICES EDITOR</b> Terry Moran	<b>CONTRIBUTORS</b> Grace Yang Donna Ebenstein
<b>INSIDE WORLD EDITOR</b> Jim Pierce	<b>ADVISER</b> Hall Daily
<b>BUSINESS MANAGER</b> Heidi Eldenburg	

Published weekly except during vacation and examination periods by the Associated Students of the California Institute of Technology, Inc. The opinions expressed herein are strictly those of the authors.

Letters and announcements are welcome. All contributions should include the author's name and phone number and the intended date of publication. Submit copy (preferably on Macintosh 3.5" disk) to the Tech mailbox outside SAC room 40, or e-mail to editors@tech.caltech.edu. The editors reserve the right to edit and abridge all submissions for literacy, expediency, etc. All articles are the property of the authors. Authors and columnists retain all intellectual property rights. Articles received in Bin-Hex format will not be accepted.

The California Tech is distributed free. Issues will be mailed off-campus upon receipt of \$11 per year to cover third-class postage and preparation costs. Printed by News-Type Service, Glendale.

## LAEMMLE THEATRES

**ESQUIRE**  
2670 E. Colorado Blvd.  
(818) 793-6149

Cannes Festival Winner

**Denise  
Calls Up**

Daily 6:00, 8:00, 10:00 p.m.  
Sat-Sun Bargain Matinee 2:15 p.m.  
Sat-Sun Regular Matinee 4:10 p.m.

**COLORADO**  
2588 E. Colorado Blvd.  
(818) 796-9704

Academy Winner

**Best Foreign Film  
Antonia's Line**

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

## ANNOUNCING THE GREEN HILLS SCHOLARSHIP COMPETITION

Green Hills Software annually awards several merit scholarships in the amounts of \$2,500 and \$5,000 to Caltech undergraduates who have demonstrated ability and special aptitude in computer science. Those awards are for the Junior and Senior school years. In addition, Green Hills will award one or two Undergraduate Fellowships consisting of a Senior year scholarship plus a \$6,000 summer internship for the preceding summer. All awards are merit awards, given without regard to financial need. Any student currently holding a Junior year award must reapply to be considered for a Senior year award. The deadline for submitting the Green Hills Scholarship application to the Financial Aid Office is April 22, 1996. Applications are available at the Financial Aid Office, 515 S. Wilson, and the Dean's Office, 102-31.

## ATTENTION: FINANCIAL AID RECIPIENTS

To ensure that we have sufficient funds to meet your full financial needs for this academic year, we have established deadlines to adjust your Caltech financial aid for 1995-96.

If you wish to:

1. Request a Federal Direct Stafford or PLUS Loan
2. Request any other type of adjustment to your 1995-96 award

Requests for adjustments should be submitted by the deadline for class levels. If you are a freshman, sophomore, or junior, submit any written request by May 15. The deadline for seniors is April 15.

All requests should be made in writing and submitted to the Financial Aid Office (MC 12-63) by the appropriate date listed.

Please contact the Financial Aid Office before the date listed if you have any questions.

**Thank you for your cooperation.**

## 1996-97 UPPER CLASS MERIT AWARDS

Each year, the Faculty Committee on Scholarships and Financial Aid grants a number of Upper Class Merit Awards to the most academically talented of the Institute's Sophomores, Juniors, and, occasionally, Freshmen. Upper Class Merit Awards are based on outstanding scholastic achievement as demonstrated by exceptional performance in formal classes and/or in independent research, and not on financial need. Last year, the Committee recommended a total of 45 Upper Class Merit Awards. Awards ranged from \$6,000 to full-tuition, \$17,370. The level of awards in any year is determined by the number and caliber of the applicants.



## Trust Me...

by Keith Counsell

Animal, vegetable, or mineral, if you've got an idea that you think I ought to write about, let me know and I'll see what I can come up with. You'll get credited for the creative spark if you so desire, and then I'll completely butcher what might have been something interesting if it had been developed by someone with talent.

If you've got an idea you'd like me to "explore," drop me a line at MSC 196 or as [keithc@cco.caltech.edu](mailto:keithc@cco.caltech.edu).

This week's topic: **Garbage disposal**, selected by Matias Eljovich.

Most of us take trash, or rather its speedy removal from our immediate vicinity, for granted. But there's a lot more to it than that. There are almost as many ways to dispose of waste as there are forms of trash, and there's a lot to be considered when you toss something away. Perhaps the most important question that we, as individuals, have to ask ourselves here is: What's my favorite way to dispose of garbage (or, as the French say, *garbage*)? Since I obviously can't read your

collective minds, I will instead share my own hopefully policy-forming opinions on the matter.

Trash comes in many grades these days, but the tip of the garbage world's social iceberg is without doubt recyclables. Aluminum cans, white and colored paper, plastics of assorted types, and glass in all its many forms can all be easily recycled here on campus. There's some expense in doing this, though. You actually have to exert effort before you can throw this stuff away. First you have to sort it. Then you have to remember enough basic geography to figure out where the right bins are. Then you have to go to the bin,

which in the case of colored paper can be as far away as across the Olive Walk and past the undergraduate mail boxes! Still, recycling is pretty easy to do and if you're so inclined you can get warm fuzzy feelings from doing it, so there's not really any harm. I recycle things pretty regularly, with the possible exception of aluminum soda (that's pop to all you weirdos) cans that I empty while in the Ricketts House lounge. Those I throw in the fireplace once in a while just to watch them decay over time. It's kind of cool.

Another really nice form of garbage is soft waste that's generated while cooking. Most people have a garbage disposal unit in their sinks now, and it's really pretty satisfying to shove leaves and stems and stuff down this little tiny hole, flip a switch to make a huge grinding noise for a little while, and then try to run water down the newly clogged drain. I prefer to actually just toss food waste into the garbage can conveniently located in the kitchen.

Once you've dealt with the easy stuff there's still a huge mass of, well, GARBAGE that needs to be disposed of. Some of it is pretty easy; there are a lot of really nice garbage cans scattered about the campus that are readily available for use. Most obvious of these are probably the big gray ones that are

all over the place in the student houses and building halls. They have a large capacity and are nice to use when you've just gone to Burger King rather than face another day of your own cooking, sat down in a public area to munch on your fast food, and then suddenly find yourself with a bunch of trash.

The small rectangular or circular trash cans that can be

*There are few things more annoying than trudging down the hall to one of the Big Cans with an armful of snot-soaked tissues and suddenly meeting the woman of your dreams.*

found in the privacy of your own room or office are pretty spiffy too. On the few occasions where I get a cold, I seem to produce a whole bunch of mucus on a regular basis, and there are few things more annoying than trudging down the hall to one of the Big Cans with an armful of snot-soaked tissues and suddenly meeting the woman of your dreams, except she doesn't

want to even talk to you since you're obviously some freak with a snot fetish. It's much better to just use the small receptacle provided for your own use, and then when it's full just discreetly empty the whole thing into one of the large cans when you can do so unobserved.

Sometimes there's that magical last category of trash that perhaps needs special treatment. All of those Ch 1 notes you've been so patiently taking suddenly lose meaning, and you've just got to get rid of them but don't want to contaminate the recycling bin with the foulness. Maybe that girl is coming along and you've got to ditch those pesky tissues quickly, before she notices you. Who knows? Anyway, some trash needs immediate and decisive action. In those cases, I'd like to recommend the Ricketts House fire pot. Contrary to popular belief, the pot is in fact a trash can — as long as what you're throwing away doesn't stink when it's burned or left sitting for a little while. Of course, we ask non-house members to leave a small donation for the eventual reconstruction of the pot if they want to use it, but we're pretty flexible.

As of Friday, 63.



# CAL TECH JAZZ BANDS

SUNDAY  
APRIL 14, 1996  
8:30 PM

Caltech Jazz Bands to appear at our local jazz club, **The Baked Potato**. Reservations are recommended. For further information please call 818-564-1122. General Admission \$8.00 Students \$4.00

featuring: **BOBBY RODRIGUEZ**

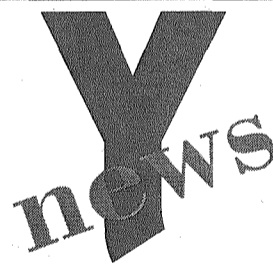


**The BAKED POTATO**

26 E. Colorado Blvd., "Old Town", Pasadena



directed by  
Bill Bing



by Sam Foster

Today in the Winnett Quad is **David Harris**. He is part of the ongoing Noon Concert Series.

Exciting things are happening this next week for the Y. It's **International Week!!**

### Monday April 15

12 noon to 1 p.m. in Winnett

Amy Daily is a recruiter for the **Peace Corps**. She will be talking generally about the Peace Corps and her experience in Tunisia, North Africa. Lunch served to the first 20 people.

### Tuesday April 16

12 noon to 1 p.m. in Winnett

Swapna Panat, M.A. will present a focus on the post 1965 immigration of **Asian Indians** to the United States and their experiences and struggles. He will also discuss traditional Indian values and how these conflict with Western ideologies.

Lunch will be served to the first 20 people.

### Wednesday April 17

12 noon in the Winnett Quad

**Mariachi Band**: Spice up the TFM by eating in the Quad. (OK, so not much could make that food better.)

### Thursday April 18

4 p.m. to after dinner in the Winnett Quad

**1-Day Fair!!** This year we're doing something a little different - we're charging "admission". Not really admission. You can walk around the tables all you want and look at the good tasting food and posters and listen to the band all you want. But if you want to eat, it'll be \$2. That's right, a \$2 charge for a "food passport," and you get all the food you want. (Kinda like Better Off Dead, but with no elementary school newspaper boy.)

Have fun at all the festivities during International Week. Donna will be back to writing next week. She in Berkeley deciding is she really wants to go there, or MIT, or UCSD, or....

FEATURES

**A.R.C. Minutes**

4/5/96

Minutes of the Academics and Research Committee meeting on 4/5/96

Present: Kohl Gill, Eric Dickson, Dave Bacon, Jessica Chang, and myself (Kiran Shekar).

The meeting started at 11:15 a.m.

We discussed the survey we want to put out concerning the advising system. We looked over last year's surveys and added, deleted, and changed

whatever we thought was necessary.

Then we discussed election of the new ARC reps. It was decided that the way the new reps would be chosen would be left to the discretion of the individual houses. (Note: If you are interested in being the next ARC rep for your house, see your current ARC rep to find out what the job entails. Warning: Do not apply if you are not willing to work!). Also, sign-up sheets will go up soon for the position of ARC rep-at-large.

The meeting ended at 12:20 p.m.  
Kiran Shekar  
ARC Secretary

**HAWKING: Physicist Discusses Time Travel**

CONTINUED FROM PAGE 1

Thence ensued a question and answer session. He fielded three questions. The first dealt with determinism and free will. Hawking ventured that determinism is real but that free will depends on our ignorance of the future. The second question, "How did time begin?" was answered clearly: "Time is rather like a line of longitude. There is nothing more north than the

North Pole." At this point Preskill mentioned that Hawking sometimes made foolish bets, one of which Hawking lost. It involved whether singularities are clothed or naked. "I concede the bet on naked singularities," said Hawking. The final question was somewhat more difficult; nevertheless, the response was scientifically responsible and well-spoken. "Who or what is God?" After a pause, Hawking

came back: "I make it a rule not to answer God questions."

That Professor Hawking is a popularizer of science forms part of his appeal; he has the capability to communicate in relatively non-technical terms to a wide audience. Outstanding in his credentials are his humor and spiritedness. This, more than anything, attracted us to experience the vital energy he inspires into the subject.

*Submit to your creative instincts...*

**SUBMIT TO THE TOTEM!**

The Totem welcomes all artwork, photography, poetry, essays, music, and fiction. Please send your submissions to MSC #990 or bring them to Ruddock 221.

The deadline is May 1st.

**DOES YOUR CLUB NEED SOME EXTRA \$\$\$?**

The SIF is now accepting forms for disbursements, which means that by just filling out a little piece of paper, you can get

**FREE MONEY FOR YOUR CLUB!!!**

That's right, the SIF is looking to fund "interesting and useful purchases of capital goods", which is their way of saying "if you've had your eye on that toaster oven, wacky club tee shirt, or collection of Barry Manilow's Greatest Hits, **WE WANT TO GIVE YOU \$\$\$!**"

I'm sure you're wondering how you can apply for this incredible deal. It's easy! Just request a form from [hjason@cco](mailto:hjason@cco). The form will say what to do. Just remember, this offer ends soon!

**\$ DEADLINE: MAY 3!!! \$**

Northwestern University Summer Session '96

**Beaches and Bio**

Think you can't hit the beach and the books this summer? You can at Northwestern. With over 300 courses to choose from, easy access to Chicago, and a beautiful lakefront location, Northwestern University Summer Session '96 offers you beaches with your bio class, or whatever else you want to study.

So if you're looking for some extra credit this summer, don't miss your chance to catch up, get ahead, or just study something new. With Northwestern's intensive course sequences in

physics, chemistry, and nine languages, you can earn a full year's credit in eight weeks. If you're looking for an elective or two, our summer schedule is full of small classes with some of Northwestern's most popular professors. You can even study abroad. What about fun? Northwestern's Summer Session '96 has canoeing and hiking in Wisconsin, summer musicals, outdoor movies, and special discounts on musical, cultural, and sporting events in the Chicagoland area.

For the best summer plans, call **1-800-FINDS-NU**.

For a free copy of the Summer Session '96 catalog, call **1-800-FINDS-NU** or e-mail your request to [summer@nwu.edu](mailto:summer@nwu.edu).

**HIGH POWERED SYSTEMS FOR CALTECH HIGHER LEARNING**

**PROSYSTEMS Value Station**

New PC/ISA "Burst Mode" MB w/ 256k cache  
8MB Ram, 850MB hard drive  
1.44 Teac floppy drive  
PCI Video w/ 1MB upgradable to 2 MB  
28.8k fax modem  
101 keyboard / Logitech mouse  
Mini tower case design  
Windows '95 or DOS & Windows 3.11  
Monitor not included

Intel Pentium® - 75 MHz

**\$995** 100 MHz 120 MHz  
\$1,095 \$1,165

**PC Systems DESIGN**

Custom Configurations Available  
Call For Your Personalized Quote

**PASADENA** 818 • 792 • 1391  
240 South Lake Ave.

STORE HOURS: MON-FRI 9AM TO 6PM  
SAT 9\*AM TO 5PM

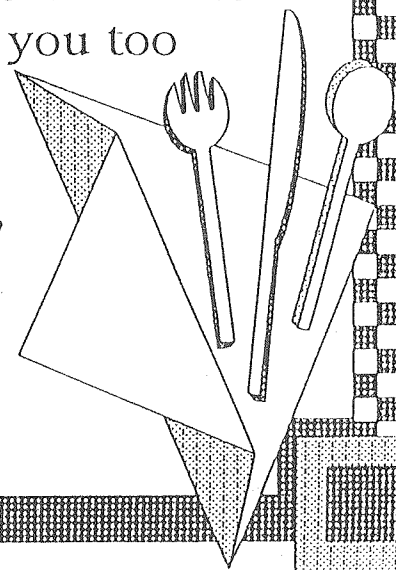
All Prices are cash discounts and subject to change without notice. Special is limited to stock on hand. Offer Expires 5/31/96. PC Systems Design is not responsible for typographical errors.

Multimedia Personal System		Power-User Super System	
New PC/ISA "Burst Mode" MB w/ 256k cache	8MB Ram, 850MB hard drive	New PC/ISA "Burst Mode" MB w/ 256k cache	16MB Ram, 1.2GB IDE hard drive
1.44 Teac floppy drive	PCI Video w/ 1MB upgradable to 2 MB	1.44 Teac floppy drive	New! Diamond PCI 3D video w/ 2MB & integrated sound (full screen MPEG, video CD, and AVI playback)
Creative Labs Multimedia Kit (1x Multi-Session CD Rom, Soundblaster 16)	101 keyboard / Logitech mouse	6x Multi-Session CD Rom	28.8k fax modem
Mid tower case design	Windows '95 or DOS & Windows 3.11 Including 15 software titles	Multimedia stereo speakers	101 keyboard / Microsoft mouse
Monitor not included		Full tower case design	Windows '95 or DOS and Windows 3.11
		Monitor not included	
Intel Pentium® - 75 MHz	100 MHz \$1,275 120 MHz \$1,345	Intel Pentium® - 120 MHz	133MHz \$1,675 166MHz \$1,999
	<b>\$1,185</b>		<b>\$1,595</b>

\*\* Prices on this page represents bundled discounts \*\* Custom Configurations Available

**ATTN: SENIORS  
Dinner with the MOSH**

If you have never been to Dinner with the MOSH at Steele House and would like to go before you graduate, sign up ASAP in the Residence Life Office. If you have been to a Dinner with the MOSH and would like to go one last time, you too can sign up. The dinner will be held Tuesday, April 23.



# SMOKING Flame On: SECTION

## Caltech Affected by Decline in Map-Reading Skills

The latest issue of *Useful Statistical Data for Frightening Republican Voters So They Blindly Vote For What You Want* reported some rather disturbing news: It appears that the ability of U.S. college students to read maps has severely declined in the past few years. The article reported that only 88% of U.S. college students can find Yugoslavia on a current world map, down from 89% fifteen years ago. Of the 12% who could not find Yugoslavia, 96% could not find the U.S.S.R. and 76% thought Ann-Margaret still looks really good.

"Map-reading is a dying skill," acknowledged Horace Dangerfield, head of Presi-

dent Clinton's *Save the Dumb Shit Foundation*. "Every day we get reports of more and more people who are dying because their parents never taught them to read a map and practice safe sex. Their promiscuous behavior leads to increased drug trafficking and industrial pollution. If a solution is not found soon, Spring will come." Mr. Dangerfield's office in Bellevue reportedly fields more than 2,000 phone calls a day related to map-reading and eye disorders. Mr. Dangerfield also claims to be a Chihuahua. His doctors declined to comment for this article.

But this is national news,

and the average Caltech student normally feels he/she/it can ignore any reports from the outside world. However a recent survey by our staff found that the problem of inferior map-reading skills hits home in a shocking way: In a survey of 5 undergraduates, 100% of participants incorrectly identified the center of campus. All five placed the center in the Dabney-Baxter-Keck general area.

Gary Lorden, Vice-President for Student Affairs, was particularly disheartened by the news. A mathematics professor and amateur map-reader, he has spent the last several years attempting to increase campus knowledge of the whereabouts of the center of campus. He spoke with me recently about the survey:

"It's particularly painful to admit that the inability to read simple maps extends to Caltech undergraduates. No single piece of news has saddened me more. You would imagine that several classes in topology and the famous Caltech common sense

would guarantee a campus of nigh-professional map-readers."

When asked what the administration planned to do about the problem, Mr. Lorden offered to give some quick tutelage in the fine art of locating the center of campus. Taking a map from his desk he instructed me to draw a line from the northwest corner — Del Mar and Wilson — to the southeast corner — California and Hill. Then draw another line from the northeast corner — Hill and Del Mar — to the southwest corner — California and Wilson. Make a note of where the two lines intersect and ignore that point. Then move your finger to the building just west of the new parking structure and argue vehemently that this is where the center is. Ridicule anyone who claims you are wrong. This method assumes the Gym and Health Center are not part of campus. If you wish to adjust the

definition of campus to include these buildings, Mr. Lorden has offered to assist you in locating the center of the "new" campus.

I asked Mr. Lorden if there was an easy way to identify the center of campus, and he promptly replied, "Yes, of course. It's where we're building Avery House." On a side note, I asked what he thought of the Avery House project. He paused in reflection for a moment and then answered:

"Avery house was our last, best chance for peace... It failed. But during the time of the map-reading wars it became something greater: Our last, best chance for victory."

In addition to the tutelage Mr. Lorden will offer, he plans on meeting with Mr. Dangerfield in Bellevue to coordinate Caltech's efforts with President Clinton's. Hope runs high.

## Flame Off:

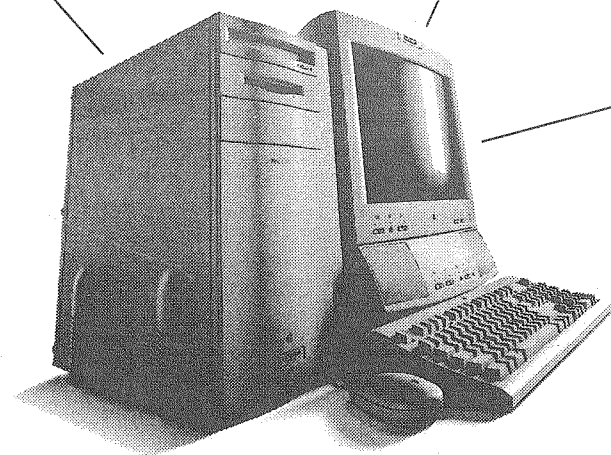
**Flame On:** is a weekly column brought to you by the California Tech to enlighten your minds, expand your horizons, and get Art Clarke 3 units closer to graduation.

It talks.

It talks to your Mom.

It talks to Moscow.

It talks to other computers.



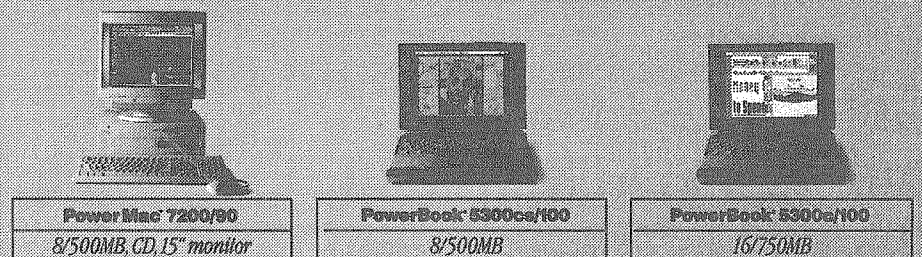
It listens to your wallet.

When you buy a Macintosh\* computer, you're buying some of the most advanced multimedia capabilities you can get in a computer. With its built-in stereo sound, video graphics and animation, Macintosh is an easy way to bring your work to life. Of course, you're also buying the computer that gives you a fast, easy way to access the Internet. Because with a Macintosh there are no complicated commands needed to get up and surfing on the Internet. Better yet, with the compatibility of a Mac,\* you can run UNIX,\* DOS and Windows, as well as Mac OS.\* Making it easy to talk to other people, even if they're not using a Macintosh. And if all that isn't enough, now we've even made Macintosh easy to buy. Because for a limited time, we're offering special campus savings on selected Macintosh computers and Apple\* printers. So stop by and visit us today, and look into the power of Macintosh. The power to be your best.\*

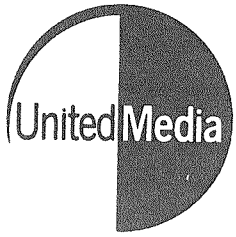


For more information visit us on the Internet at <http://bed.info.apple.com/>

For further information visit the  
Campus Computing Organization  
Jorgensen Building 158-79 • (818) 395-4612

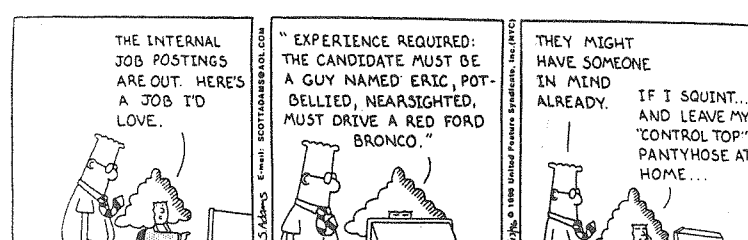
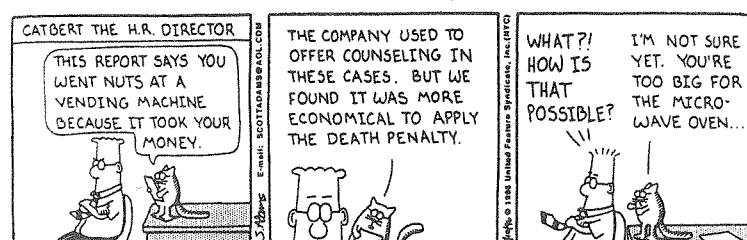
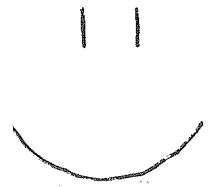


\*The Power Macintosh\* 6100/66 DOS Compatible and other Power Macintosh models using SoftWindows™ from Insignia Solutions run MS-DOS 6.2 and Windows 3.1. For proof, ask for the 1995 Ingram study comparing Power Mac\* computers to Pentium-processor-based computers running Windows. Offers shown above expire May 15, 1996. See your campus store for details about the Apple Computer Loan. © 1996 Apple Computer, Inc. All rights reserved. Apple, the Apple logo, LaserWriter, Macintosh, Performa, PowerBook, Power Macintosh, StyleWriter and "The power to be your best" are registered trademarks of Apple Computer, Inc. Mac and Power Mac are trademarks of Apple Computer, Inc. UNIX is a registered trademark of Novell, Inc., in the United States and other countries, licensed exclusively through X/Open Company, Ltd. Windows is a trademark of Microsoft Corporation and SoftWindows is a trademark used under license by Insignia from Microsoft Corporation. All Macintosh computers are designed to be accessible to individuals with disability. To learn more (U.S. only), call 800-600-7808 or TTY 800-755-0601.



# DILBERT® by Scott Adams

UNITED FEATURE SYNDICATE 200 MADISON AVENUE NEW YORK



## Put AT&T on your resume before you graduate

**1996 FALL MARKETING OPPORTUNITIES AVAILABLE**  
 AT&T is seeking ambitious, sales-oriented students to participate in our 7-day on-campus marketing program selling AT&T products & services. Hours are flexible with top compensation & bonuses. Must be available 1-2 weeks prior to the start of classes. We need:

**AT&T STUDENT CAMPUS MANAGER**  
 To be responsible for overall event implementation, daily management & training of student group. Requires strong leadership ability, prior management/sales-related experience a plus.

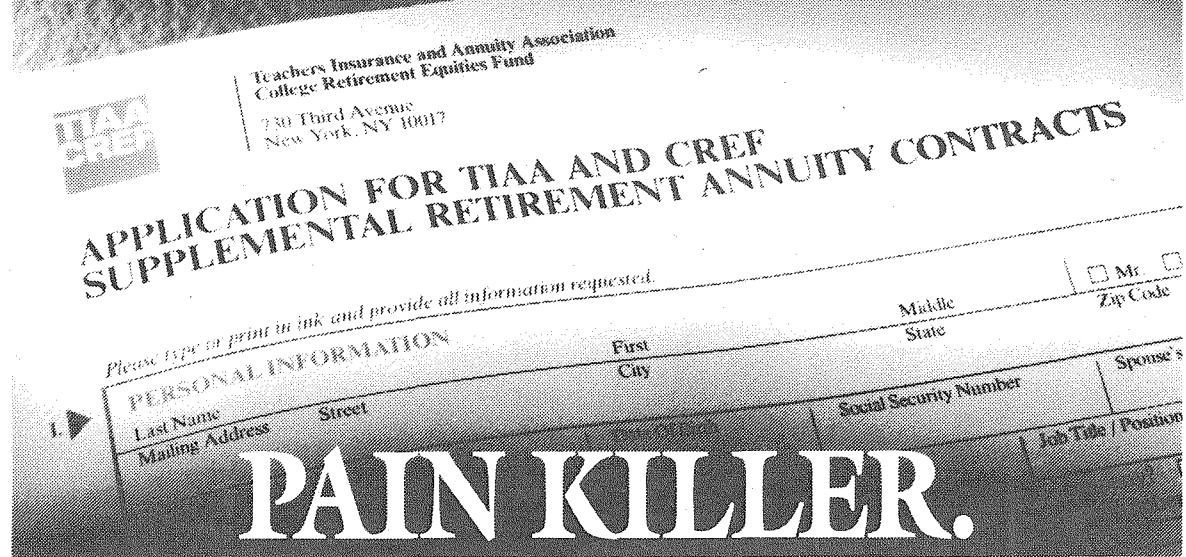
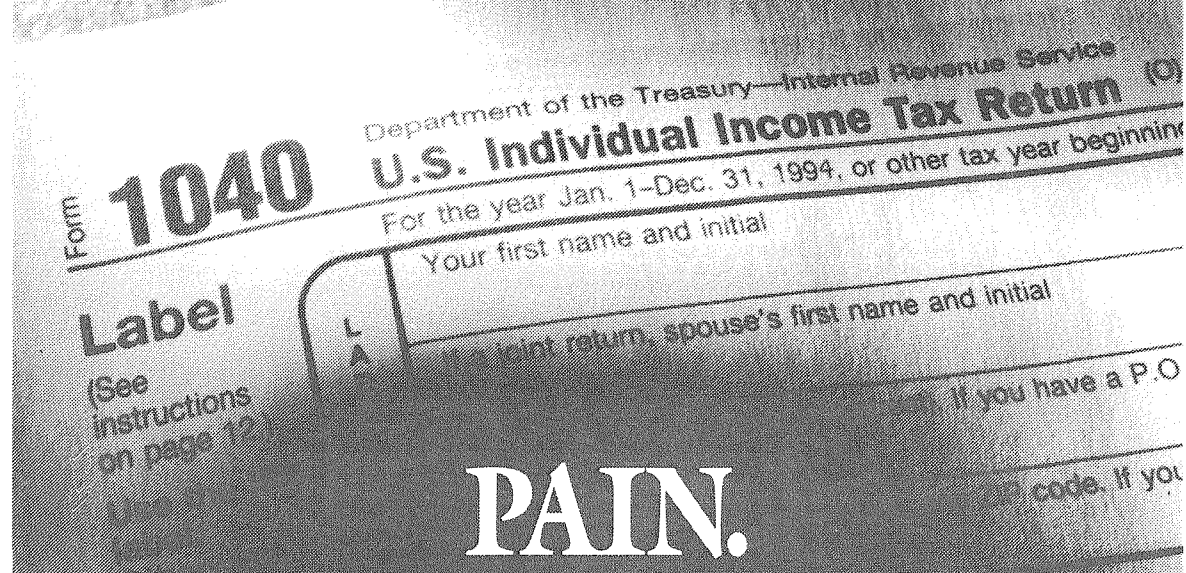
**AT&T ASSISTANT STUDENT CAMPUS MANAGER**  
 To manage a group of students on a daily basis and assist with overall event implementation. Sales/leadership experience a plus.

**AT&T STUDENT REP/CAMPUS GROUP**  
 To act as our on-campus representatives. Must be outgoing and sales-oriented. To find out more about these great opportunities, call 1 800 592-2121, ext. 336 or 337. Or send resume to Campus Dimensions, Inc., AT&T Recruitment, Attn.: TP, 1717 Arch Street, 33rd floor, Philadelphia, PA 19103, or fax: 215 568-1701.

Equal Opportunity Employer



### PRINCIPLES of SOUND RETIREMENT INVESTING



For fast relief from the nagging ache of taxes, we recommend TIAA-CREF SRAs. SRAs are tax-deferred annuities designed to help build additional assets—money that can help make the difference between living and living well after your working years are over.

Contributions to your SRAs are deducted from your salary on a pretax basis. That lowers your current taxable income, so you start saving on federal and, in most cases, state and local income taxes right away. What's more, any earnings on your SRAs are also tax-deferred until you receive them as income. That can make a big difference in how painful your tax bill is every year.

As the nation's largest retirement system, based on assets under management, we offer a wide range of allocation choices — from the TIAA Traditional Annuity, which guarantees principal and interest (backed by the company's claims-paying ability), to TIAA-CREF's diversified variable annuity accounts. And our expenses are very low,\* which means more of your money goes toward improving your future financial health.

To find out more, call 1 800 842-2888. We'll send you a complete SRA information kit, plus a free slide calculator that shows you how much SRAs can lower your taxes.

Call today—it couldn't hurt.



Ensuring the future for those who shape it.™

\*Standard & Poor's Insurance Rating Analysis, 1995; Lipper Analytical Services, Inc., Lipper Directors' Analytical Data, 1995 (Quarterly). CREF certificates are distributed by TIAA-CREF Individual and Institutional Services, Inc. For more complete information, including charges and expenses, call 1 800-842-2733, ext. 5509, for a current CREF prospectus. Read the prospectus carefully before you invest or send money.

### CLASSIFIED ADS

**FUNDRAISING—**  
**FAST FUNDRAISER**—Raise \$500 in 5 days. Greeks, groups, clubs, motivated individuals. Fast, easy—no financial obligation. (800) 862-1982 ext. 33.

**HELP WANTED—**  
**PROGRAMMER/DEVELOPER** — Immediate position. Contract or full-time. Visual Basic/Access/SQL Server essential. Résumés: FAX (310) 246-9540; mail MCT, 9744 Wilshire Blvd #306, Beverly Hills CA 90212; or call (310) 246-4455.

**RESEARCH ASSISTANT** wanted to assist with article on coupled oscillators, phase transitions, superconductivity. Work at own pace. \$20 per hour. Send résumés to: J. Mackall, PO Box 2578, Santa Barbara CA 93120.

**STUDENT WITH HTML PROGRAMMING** for collaboration on WWW page. Graduates, post-docs preferred. Please call Sean (213) 741-0711.

**PERSONAL—**  
**SWEET? SMART? PRETTY? SWM**, gentle, kindhearted, loving, intelligent and educated (Harvard Ph.D.), humorous, sincere, ambitious, offbeat, hardworking, generous, emotionally mature, loyal, good communicator, 30s, 5'10" 180 lbs, healthy. Seeking smart female with heart of gold, 20s, for friendship and hopefully romance. Please call Joe, (213) 661-4045 or jkasof@ucla.edu.

**SUMMER OPPORTUNITIES—**  
**DC SUMMER INTERNSHIPS** — Where do companies like Disney, Dreamworks, Discovery, Microsoft, Intel, American Express, AT&T, Time Warner, and hundreds more turn for help in planning futures in interactive media? The Interactive Television Association—and we have DC's most unique internships. No make-work but substantial projects that create real résumé items while making key industry contacts invaluable to your future. Call (202) 408-0008!

**RATES** . . . . . \$4.00 for first 30 words; . . . . . 10¢ for each additional word. Send written ad with payment to 40-58. Deadline is 6 p.m., Monday before issue. No charge for on-campus lost & found.

# MÖBIUS

CONTINUED FROM PAGE 3

of a lot more than the credit card companies give us for their cut, anyway! (By the way, compare the U.S. government's cut of the GNP to 40% in Sweden, 35% in the UK, 30% in Switzerland, and 20% in Mexico, Canada, and India...especially in light of the fact we spend over a quarter of it on the military, more than almost anyone else!)

There's a paradox in all of this: if you use a credit card, you get the convenience out of it, but everyone pays for it. (With the rare exception of the gasoline stations that charge extra for credit purchases, at least.) Each credit card purchase is a "vote" for a national 4% VAT; and even without a majority voting for it, everyone will pay for credit cards until vendors start charging differently for them and thus actually pinning the cost of their use on their users. This leads me to three suggestions for us all:

1) Kill your credit card. Don't charge everyone a 4% VAT to pay for the rather minor convenience you get out of its use.

2) Don't be negative toward

vendors that charge more for credit card purchases—in fact, encourage them to do it. They are making credit card users pay more so that everyone else can pay less!

3) a) If you think the government should spend more (you liberal hippie-type, you!), encourage the government to issue a credit card of its own. One that can be used to charge college tuitions, welfare purchases, health care, disaster relief, ad infinitum. The 4% they suck off could well make it possible to keep all these services going, merely as a result of the use of the credit cards... and it could hardly cost more than the ridiculous paperwork system that the government currently uses. If people stay as short-sighted as they are now, they'll never notice or figure out they are all getting hit up for the extra moola.

b) If you think the government spends too much already, stop being stupid about tax cuts. The government should be bringing the debt back down to earth as fast as possible if it wants to make its expenses go down. Debt service was a whopping 14% of this nation's expenditures in 1994! What would you do if you had a five trillion dollar overdue credit card bill and wanted to stay solvent? Give up some of your

income or work hard to cut down your debt?!? Governments don't deal with bankruptcies well, I've heard. I don't think that's an option.

**You Can Wait Forever for the Future to Arrive** — As long as I'm in a whining mood, let me put this laundry out to dry too. I work in the "alternative energy" field, and as such I'm often asked when solar power, or electric cars, or what have you, will 'arrive.' It's not likely to occur as a single watershed event, gang. There's a lot of alternative energy options already available out there, and they are vastly under-used. Reasonably-priced electric cars are made and sold right here in LA, by several companies. Wind power is widely used in the high desert to provide electric power to nearby communities. There is even a highly-efficient, pollution-free solar-powered clothes-drying device available for under one dollar at most stores. Problem is, people keep waiting to get something for nothing. They want electric cars that operate exactly like their gasoline-powered ones. They want to keep their houses at exactly 72.3°F the whole year round on wind power alone. They don't want to spend two minutes hanging their laundry out to

dry in the sun.

Just about anyone will tell you they want to breathe clean air and do their part to protect the environment... but most are unwilling to make undercompensated sacrifices to do it. The problem is the reverse of the credit-card paradox I raised above: when you make a compromise for the good of the environment, you only see a very small fraction of the benefit yourself. Most of the benefit goes to other people, whether they are environmentally responsible or not. Recycling that tin can doesn't make you any money, right? It costs the same as throwing it away, and it's more work. Americans are generally really bad about doing something for the good of complete strangers... they want to know what's in it for them, and if that in itself isn't enough, forget it! The root problem is that while we all share the consequences of environmental irresponsibility, the distribution is completely socialistic. Each person feels the effects equally, irrespective of their contribution to the problem. So long as this is true, only the idealistic, the stupid, and perhaps the far-sighted will make sacrifices for the sake of the environment; and they will put in more than they get out of the deal so long

as they are in the minority. (Hey, the same holds true for the good of the country and of the world of the whole. It's always 'me first' and 'not in my back yard!' and when it is, anyone who tries to be selfless just gets walked on by the Me Generation.)

While I'd like to believe people will soon wake up to the long-term consequences of their short-term thinking, I've lost much of my idealistic edge. (Look at the credit card business... it's booming.) Even here at Caltech, where people are supposed to be unusually smart, the everyday actions of the majority of the populace seem blissful in light of the cumulative, eventual consequences of their actions: and you can see why. Getting that degree is more important than saving paper or gas, being at the top is more important than how you get there. Nobody cares if you did good things along the way, unless perhaps you do. In some respects this just contributes to the general darkening of the world around us; but with respect to our endless abuse of the environment, we need to do something to turn the tide, just so we can keep our head above water. Being good to the environment must be 'subsidized' to pay dividends for those who do it, because it will always require more effort and money up front than being reckless... and we have *got to get our act together on this one!* It's not a quality of life issue, it's life or death.

The government has already taken some steps in this direction, by regulating stack and tailpipe emissions and charging for excessive ones. However, many of the rules are stupid (\$300 for a non-CA car, regardless of its emissions!?) and they only cover a fraction of the problems. I'm pushing for a radical move toward including the full environmental cost of commodities (from gas to soybeans to steel, regardless of country of origin) in their selling price. I know, gas would cost one hell of a lot more if the expense associated with protecting our supply of it and dealing with the environmental damage related with its use were included. But that's the way it should be. As things are now, it's just another manifestation of the VAT problem. We all suffer the consequences of the collective actions of those with whom we share a watershed, a national park, a continent, or an entire planet. No magic solution will be found to environmental problems, and non-magical solutions require financial viability. Alternative energy advances inevitably run up against a chicken-and-egg problem, wherein the solution is only competitive in mass production or if the "economic impact of pollution" is figured in, which the real world charges against our lungs rather than our pocketbooks. As such, start-up companies flop time after time, in the face of fierce and vicious competition from established players and in light of the unwillingness of consumers to pay more out of *their* pocket to help *everyone's* environment, at least when they can't be guaranteed their neighbors will all reciprocate. The only solution I see to this incarnation of the "Prisoner's Dilemma" is the government stepping in and seeing to it that everyone does their share in protecting our environment, or at least pays to help defray the sacrifices made by those who do. Think about it when you go to cast your votes this year.

## In the New Millennium We are all explorers.

It's just that some of us are bolder.

As the world turns toward the new millennium, you'll find that Samsung is already there. Our hands-on role in semiconductor technologies continues to redefine global strategies into the next century.

We are the world's leading supplier of memory devices with billions in sales, and we'll continue to usher in new viewpoints of synchronous DRAM as we "push the envelope" in the multimedia, video and PC markets. Design expertise, diverse product range and an entry in every semiconductor product market defines our unparalleled position.

Let's talk about your career at Samsung:

**Representatives will be  
on-campus on April 22nd, 1996**

(To schedule an interview, please contact your career guidance center no later than April 21st, 1996)

### Video Software Engineer

Develop algorithm to support MPEG, H.261, H.263 compression standard and implement algorithm in C and assembly-level code. Integrate and test in target hardware. Requires an MS/PhD in EE or CS.

### Audio Software Engineer

Develop algorithm to support MPEG, G.7xx compression standard and implement algorithm in C and assembly-level code. Integrate and test in target hardware. Requires an MS/PhD in EE or CS.

### Graphics Software Engineer

Develop algorithm to support 3D textured graphics pipeline and implement algorithm in C and assembly-level code. Integrate and test in target hardware. Requires an MS/PhD in EE or CS.

### Architecture & Logic Design Engineers

Define the micro-architecture of a multimedia signal processor and implement the micro-architecture in Verilog behavioral model. Perform logic synthesis and timing analysis. Requires an MS/PhD in EE or CS.

### Communication Software Engineer

Develop algorithm to support V.34 modem and implement algorithm in C and assembly-level code. Integrate and test in target hardware. Requires an MS/PhD in EE or CS.

### Test & Qualification Engineer

Develop test suite to qualify selected software and run regression test on target HW and applications. Requires an MS/PhD in EE or CS.

### CAD/CAE Support

Provide support for CAD/CAE software tools including Verilog behavioral modeling language, logic synthesis, timing verification, placement and routing, hardware emulation and layout verification. Requires an MS/EE/CS.

### Design Verification

Develop diagnostics software to verify a multimedia signal processor and identify/isolate design errors by running the diagnostics. Interface with design engineers for corrective actions. Requires an MS/PhD in EE or CS.

### CMOS Circuit Design

Develop custom logic and memory circuits for a multimedia signal processor and verify the circuits with simulation, and supervise layout. Requires an MS/PhD in EE.

Samsung offers competitive salaries and benefits. If you are unable to attend, please send your resume to: Samsung Semiconductor, Human Resources, 3655 N. First St., San Jose, CA 95134-1713. FAX: (408) 954-7170. Principals only. Equal opportunity employer. Trademarks are registered to their respective companies.

View these positions via the Internet:

- E-mail: [jobs@ssi.samsung.com](mailto:jobs@ssi.samsung.com)
- WWW — <http://www.career.com>
- telnet: [career.com](http://career.com)
- Modem access: (415) 903-5815, 8, 1, ANSI/VT100.

**SAMSUNG**  
SEMICONDUCTOR



# Men's Volleyball Makes Semi-Finals

BY RICH CHIN

The Pomona-Pitzer Invitational Tournament II was held last Saturday, April 6, fielding teams from Fresno all the way to Utah Valley.

The Caltech Men's Volleyball Club team was placed in a pool with Cal Poly Pomona, Fresno Pacific University, and Stuffit, a Pomona-based club team.

The first match Caltech played was against Cal Poly Pomona. The club knew from previous encounters that this could very well be an extremely close match, and it proved to be one right from the outset. The Cal Poly team came out strong, but was matched by Caltech's own efforts. In the first game, Cal Poly was able to squeak by Caltech, taking it 17-15.

However, Caltech fought back the inspired Cal Poly team in the second, and won it 15-13. The decisive third game was in rally-score, point-per-serve format, and Caltech's mental game proved to be tougher. Aggressive serving was backed by a solid defense and almost flawless sideout game, giving the match to 'Tech with a score of 15-8.

Caltech then went on to play Fresno Pacific University. Domination was the name of the

game as the club was stronger in every aspect. Having quickly established the potent middle attack, the Caltech offense took advantage of the off-balance Fresno block to pick apart the Fresno defense.

The club's own blockers were not fooled at all by the Fresno offense, frustrating the Fresno hitters to no end. Caltech steamrolled through to a 15-4, 15-8 victory.

*Aggressive serving was backed by a solid defense and almost flawless sideout game,*

Stuffit was the last opponent in Caltech's pool. Played immediately after the Fresno victory, Caltech was still inspired in the first game, quickly jumping ahead and earning a 15-4 victory.

Perhaps lulled into a false sense of security, the club team made the mistake of letting Stuffit back into the match in the second game. Their hitters and passers warmed up while 'Tech's had already peaked. After a furious sideout battle, they were able to grunge out a 15-12 victory. The third game

was also close, but Caltech made a few costly errors to give the game away, 10-15.

Even with the loss to Stuffit, Caltech had played well enough in the previous matches to win the pool and advance into the championship bracket to face Utah Valley, who had taken second in Club Nationals last year.

Unfortunately for Caltech, the long matches during pool play took their toll in the playoffs. Utah had brought in three of their better players halfway through the tournament while Caltech's own team had been playing since the beginning.

Still, Caltech put up a strong fight, creating scoring opportunities and siding-out very well, and showing great determination and mental toughness. In the end, though, Utah Valley was able to edge out Tech in two games, 11-8, 11-8.

Kudos to the team members who went: Andy Berkin, Mike Burl, Rich Chin, Weng Ki Ching, Stuart Demcak, Chad Edwards, Joel Jones, Gary Leskowitz, Jack Prater, and Ken Wiberg.

Caltech's next home match will be its last match of the season.

Come watch the club take on Whittier Friday, April 26th, in Brown Gym, and defend its undefeated home court season!

# AL Baseball in 1996

BY MASON PORTER

AL East

**Baltimore Orioles**

The Orioles had a very busy offseason, picking up several players and positioning themselves as the favorites to win the American League Eastern division. Their starting rotation consists of Mike Mussina, David Wells, Scott Erickson, Kent Mercker, and rookie Jimmy Haynes. Mussina is the active leader in winning percentage, having gone 71-30 in his career. Aside from Greg Maddux, he is the best righthanded pitcher in the game. Wells is a solid starter who had a career year pitching for the Tigers and Reds last year. Erickson pitched well last year after being obtained via trade from the Twins. He had been lousy for a few seasons, but was one of the best pitchers in the AL his first 1.5 seasons. The change of scenery did him well, and he should continue to pitch as he did after the trade last year. Mercker was the fifth starter for the Braves, and will now get his first chance to fulfill his tremendous promise. (The Braves often skipped his spot in the rotation.) Haynes won 12 games in the minors last

year. The closer is Randy Myers, the all-time saves leader among lefthanded relievers. He is still a good closer, but he tends to be wild and his ERA tends to be a bit high. Roger McDowell and Jesse Orosco are capable set-up men. The catcher is Chris Hoiles, who can be penciled in for 20 homeruns. However, he is weak defensively. First basemen Rafael Plameiro is one of the best both with the bat and with the glove. He will contend for the AL MVP award. The same can be said of Roberto Alomar, one of the best players in the major leagues. He should return to his 1993 form this year. At shortstop is Cal Ripken, whose streak of 2153 consecutive games is the longest ever in the US (he should break the world record of 2215 games this year). He remains stellar defensively and solid at the plate. Expect about 20 homeruns and 80 RBIs. B.J. Surhoff was recruited to play third. A good athlete, he can play catcher, the outfield, and both infield corners and is above average at each position. He had a career year at the plate last year and is a solid hitter. Expect a .285 average and 15 homers. In left field is Jeffrey Hammonds, whose career has thus far been stunted by

SEE BASEBALL ON PAGE 10

## STUDENT TRAVEL



Student Airfares  
Packages for 18-34 yrs.  
Domestic discounts  
Travel Insurance

STA Travel is the world's  
largest travel organization  
specializing in low-cost  
travel for students.

Eurail Passes  
ID cards & hostel membership  
Around the World  
Spring Break

**213-934-8722**

7202 Melrose Avenue  
Los Angeles, CA 90046

<http://www.sta-travel.com>

**STA**  
**STA TRAVEL**  
We've been there.

CSIR # 007540-60

"OUR USE OF  
TRILOGY'S  
PRODUCT IS A  
CLASSIC CASE  
OF APPLYING  
INFORMATION  
TECHNOLOGY  
TO IMPROVE  
CRITICAL  
PROCESSES."

Tom Schick  
VP Business Process Redesign  
Boeing Airplane

Trilogy Development Group is looking for a select number of Cal-Tech students to help us build Trilogy's future and shape our strategy. Trilogy's revolutionary technology helps companies such as Boeing streamline their production process. Trilogy's clients range from a multitude of Fortune 500 companies, including IBM, Hewlett-Packard, AT&T, Freightliner, & Haworth. If you desire the challenge and responsibility of working for one of America's most influential software companies, **Please join us for our information session • Student Activities Center • Room #13 • Tuesday, April 16 • 5:00 pm. Please bring your resumes.**

TRILOGY:  
REENGINEERING THE WAY COMPANIES DO BUSINESS

TRILOGY, 6034 West Courtyard Drive, Austin, Texas 78730 • 512.794.5900 ext 248 • [jeff.daniel@trilogy.com](mailto:jeff.daniel@trilogy.com)



# BASEBALL: Mason Porter Picks Winners in the

CONTINUED FROM PAGE 9

injuries. He has the potential to be a superstar. Brady Anderson is the center fielder; he is excellent defensively and can hit 15 home runs and steal 30 bases. Bobby Bonilla plays right field to the Orioles. He has now reached the point where he is only slightly below average in the field. At the plate, he has the potential to hit 30 homers, drive in 100 runs, and contend for the MVP award. The designated hitter is Mike Deveraux, a solid hitter but a below average DH. He could hit 15 homers and drive in 75 runs. Overall, the Orioles are an excellent team on paper. Though many said the same thing at this time last year, there is a big difference this time. The general manager (GM) is Pat Gillick, who constructed a miniature dynasty while he was the GM of the Blue Jays. If any of the Orioles' players falter, one can be assured that Pat Gillick will quickly do something about it. The Orioles will win the AL East.

## Boston Red Sox

Last year, the Red Sox relied on some career years to propel them to the top of the American League East. They cannot expect certain players (Tim Wakefield comes to mind) to repeat last year's performance. Nevertheless, they are a solid team and a return to health by ace Roger Clemens should make them contenders. Clemens was 10-5 last year, but his ERA was over 4.00. (He also spent some time on the DL.) Though he will likely never again be as good as he was in 1986 (when he won the first of his three Cy Young Awards), he should still win 15 games and have an ERA in the lower threes. After Clemens, one finds Aaron Sele, Wakefield, curveball specialist Tom Gordon, and former Oriole Jamie Moyer in the Bosox rotation. Sele will become one of the best pitchers in the AL, if he can avoid the injury bug which derailed him last year. Wakefield will not come close to what he did last year, but will not be as bad as he had been for a couple of years either. Expect 12 wins and an ERA of about 4.00. Tom Gordon will probably do about the

same, and Jamie Moyer is about as good as a number five starter as if any of the above falter or get injured, Jeff Suppan is waiting in the minor leagues. The closer is expected to be Heathcliff Slocumb, although sidearming Stan Belinda (currently on the DL) should get some saves as well. Slocumb struggled in the second half last year, and will probably lose his closer's job before the year is over. The starting catcher is Mike Stanley, perhaps the best hitting catcher in the AL. He is also solid behind the plate. Mo Vaughn, the reigning MVP, is stationed at first base. He is not very adept in the field, but the Red Sox could do far worse in the field than Vaughn. Offensively, Mo is simply awesome; he will hit about .300 with 40 or so homers and 120 or so RBIs. The second baseman is Wilfredo Cordero. He is a defensive liability, but has good power for a middle infielder and could hit .300. Shortstop John Valentin was the best offensive shortstop in the AL last year. He has a .298 batting average, 27 home runs and 102 RBIs. He also stole 20 bases. Defensively, he is above average. The third baseman is Tim Lincecum. Last year, he avoided injured for the first time in over five years. He verified the suspicion that he could hit; however, he was a bit below average in the field. Expect him to get injured this year. Patrolling the left field grounds near the Green Monster will again be Mike Greenwell. He is adept at playing left field in Fenway Park, but he's about average on the road. He is another Mark Grace clone at the plate. The center fielder is expected to be Dwayne Hoseney, who is in his late twenties but will nevertheless have a shot at his first full season in the majors. He hit well during September last year and has fared rather well in the minors. I do not think he will be able to hit major league pitching over a full season. He seemed to be an adequate defender last year. Right fielder José Canseco will be playing in the outfield full time for the first time in several seasons. At this point in his career, he is a defensive liability. When healthy, he is one of the best offensive players in the game. Last year, he hit his 300th home run. This year, ex-

pect an MVP caliber season from Canseco. (Maybe he will even get back together with his estranged wife Esther.) Kevin Mitchell is the reason that Canseco is now in the field. His 1989 barehanded outfield catch aside (it was a fluke), Mitchell is one of the worst defensive outfielders of this generation. He performed miserably in Japan last year, but should still be able to hit major league pitching for both average and power. The Red Sox have a solid team, although their pitching may turn out to be a weakness. They should contend for the wild card spot.

## New York Yankees

King George is back! Owner George Steinbrenner has vowed to be a "hands on" owner this year. Translated, this means that the Bronx Zoo is going to be even more chaotic than usual. Moreover, if the Yankees get off to a slow start, new manager Joe Torre can expect to be fired. Team captain Don Mattingly retired after last season, and will be replaced by New acquisition Tino Martinez. He is average defensively, but has a lot of power. He hit 30 home runs last year. However, it is unknown whether last year was the beginning of a higher level of performance or just a career year. The starting pitching staff has the potential to be quite good. Injuries, however, may hold it back. Jimmy Key will begin the season on the disabled list while he recovers from rotator cuff surgery. David Cone, one of the best pitchers in baseball, remains the ace. Southpaw Any Pettitte won 12 games as a rookie last year and should easily win 15 this year. The Yankees signed Kenny Rogers, formerly of the Texas Rangers, as a free agent. He has been one of the best lefthanders in the major for the past two seasons, but his thick skin will not serve him well in New York. Expect him to be one of the biggest flops of this past free agent season. In fact, the Yankees have now announced that he will start the season in the bullpen. He should move into the rotation shortly. Dwight Gooden, the possible number five starter, needs to show that he can recover from a one year drug suspension and a couple of mediocre seasons. Melido Perez and Scott

Kamieniecki will also start some games for New York this year. The relief corps is led by John Wetteland, one of the best closers in the game. Steve Howe, owner of seven drug suspensions, will lead the Yankees alcoholics anonymous meetings and serve as their primary lefthanded reliever. Bob Wickman is a good middle reliever. Catching in the Bronx will be Joe Gerardi, notorious for his low slugging percentage before he started playing for Colorado. Now that he no longer plays in Denver, his batting statistics will return to their previous level. He is an adequate defender. Why the Yankees let Mike Stanley sign with Boston is a mystery. At first base is Martinez, and at second is Tony Fernandez. Fernandez used to be a star, but he has declined considerably both at the plate and in the field. He also whines incessantly. When Pat Kelly returns from the DL in two months, Fernandez will find himself on the bench. Kelly is average as a defender and at the plate. The shortstop is rookie Derek Jeter. Though he has great offensive potential (he will eventually be a leadoff hitter), he committed an Offermanesque 56 errors one year in the minors. His defense is definitely suspect. Wade Boggs is again the third baseman. He is a gold glove caliber fielder, and can still hit three hundred (with no power and no speed) at the plate. Tim Lincecum, who has 777 career stolen bases, is the new left fielder. Scouts say that he is now an overly cautious ballplayer, so he will probably not be the quality leadoff hitter that he once was. His defense is only average at this stage of his career. Budding superstar Bernie Williams is the center fielder. He may eventually win a gold glove, and one should expect a .300 batting average, 20 homers (HRs), and 80 RBIs from him this year. Paul O'Neill plays right field, is a good defender, has a strong arm, complains a lot, and annually hits .300 with over twenty homeruns. Expect this pattern to continue this year. The DH is Ruben Sierra is often solid and occasionally spectacular despite the fact that Tony LaRussa called him the "village idiot" last year. Sierra should have been the MVP in 1989, but the award was

unfairly given to Robin Yount. Jim Leyritz is the Yankees' supersub. He has good power (expect 12 HRs), and can play the outfield, both infield corners, and catchers. However, he is a cog who thinks that he is an engine. The Yankees are in a similar situation as the Reds. They have an overbearing owner (although in this case, the team has a quality manager) and some key injuries to overcome. Expect a third place finish, but there is a chance they will finish ahead of Boston.

## Toronto Blue Jays

The Blue Jays have fallen and they can't get up! Since winning their second consecutive World Series in 1993, the Blue Jays have become one of the worst teams in the league. Fortunately, the Tigers are in the same division, so the Jays may escape the cellar. The starting rotation *currently* consists of Eric Hanson, Pat Hentgen, Juan Guzman, Paul Quantrill, and rookie Jeff Ware. Hanson is a solid pitcher, but he is not the ace he was before his arm surgery several years back. Hentgen had a lousy year last year and needs to return to his 1993 form when he won 19 games. Quantrill won in double digits for the Phillies but had an ERA of 4.67. He needs to do better, but has never done so in the majors. Juan Guzman was once one of the most dominating pitchers in the AL, but then his control went south and has yet to return. However, if it ever does come back, Guzman will again dominate American League hitters. The ability is still there. Jeff Ware, a former member of Team USA, is a largely unproven quantity. He pitched pretty well at AAA Syracuse last year. Chris Carpenter and Marty Janzen will also start some games for Toronto this year. The likely closer is Bill Risley, who was an effective set-up man for the Mariners last year. The Jays also have Mike Timlin if Risley falters. However, the bullpen, like the starting staff, is quite weak without some minor miracles. The catching tandem is Sany Martinez (a back-up for the Jays most of last year) and Charlie O'Brien (a back-up catcher for the Braves last year). Both are good fielders, and

## THE TIMING IS RIGHT

As one of the industry's leading high tech microelectronics companies, in San Diego, California, the timing has never been better to join REMEC. Our focus is on developing and manufacturing innovative state-of-the-art products for the defense and commercial markets. REMEC will be on campus interviewing for current **Electrical Engineering** openings on:

**Friday, April 19th, 1996**

If you share our dedication to teamwork and commitment to customer satisfaction, **sign-up at the Career Development Center** to interview with one of our Product Line Managers. We look forward to meeting you!

# REMEC, INC.

9404 Chesapeake Drive, San Diego, CA 92123

REMEC is an Equal Opportunity Employer/Affirmative Action

# American League East for Baseball's 1996 Season

O'Brien, despite his low batting average, can hit for some power. First baseman John Olerud is average defensively, and, despite his off year last year, is a good hitter. Though 1993 may have been his career year, he should rebound to hit .300 with 20 HRs. Domingo Cedeño will get most of the starts at second base this year. He is above average defensively, but cannot hit major league pitching. Rookies Felipe Crespo and Tilson Brito may both get chances at the second base job during the season. Incumbent Alex Gonzalez remains the shortstop. He is excellent defensively and should continue in his development as an offensive force. He reached double digits in HRs last year, and could easily hit 15 this year. His batting average and number of stolen bases should also rise. Third baseman Ed Sprague, a member of the 1998 Olympic Team, is a pretty good defensive player and is solid offensively. One can expect a .250 average, 20 HRs, and 75 RBIs from him. Joe Carter will play left field this year. Last year saw his string of consecutive 100 RBI seasons come to a close. However, he still drove in about 75 runs. His average also dropped, so Carter may be nearing the end of the road. Expect him to be traded to a contender this summer. The center fielder is Otis Nixon, a stereotypical leadoff hitter who is only an average defensive outfielder despite his great speed. Shawn Green is the Blue Jay's right fielder. He had a solid rookie year last year, and is a budding superstar. The DH will be Carlos Delgado, who has showed during the past two years that he cannot catch or play the outfield competently. He will occasionally fill in for Olerud at first base. His bat is extremely valuable, as Delgado has the potential to be a perennial 30 home run hitter. The Blue Jays should finish in fourth in the AL East, barely ahead of the Detroit Tigers. The Orioles, Red Sox, and Yankees are miles away in terms of talent.

**Detroit Tigers**  
Buddy Bell is managing the Tigers this year. Former skipper Sparky Anderson will begin the season doing some announcing for the Angels and will probably end it managing the Reds. Lou Whitaker and Kirk Gibson has retired, and Alan Trammell has been reduced to reserve status. The starting rotation is the patchwork tandem of Felipe Lira, Scott Aldred, Omar Olivares, Greg Gohr, and who knows who else. Lira won ten games last year, but he lost 13 and had an ERA well over 4.00. Aldred and Gohr have never experienced sustained success in the major league. Olivares had one good year a few seasons ago for the Cardinals, but he has bounced around since then. The Tigers, after trading Sean Bergman, probably have the worst rotation in baseball. (It may have been the worst one even before they made the trade.) The closer is Brian Williams, who has good "stuff" but could never control it either as an Astro or as a Padre. The Tigers pitching staff is so bad that they will probably be celebrating games that are rained out! The probable starting catcher is John Flaherty, who has

had one solid half season in his major league career. He has no business starting in the major league. In the Bergman trade, the Tigers obtained catching prospect Raul Casanova. Casanova played in AA ball last year and should become the Tigers' starter by the all-star break. He is going to be an excellent player. The first baseman is again Cecil Fielder whose increasing girth will relegate him to full time DH duty any week now. He can still hit 30 HRs per year, however. The second baseman is Mark Lewis, who finally played up to his potential last

year. He is average defensively, but can hit well enough that fans will not need to wish that Sweet Lou (Whitaker) had not retired. Chris Gomez will again play shortstop; he is also average defensively. His major league batting average is low, but he hit 10 home runs last year. The third baseman is all-star Travis Fryman, who had an off year last year. He is an average defensive third baseman and a mediocre shortstop. He should rebound to hit 20 homers and drive in 100 runs. The Tigers are building their team around Fryman. The left fielder

is scheduled to be Melvin Nieves who, along with Billy Ashley, last year set the major league record for most strikeouts (88) with under 250 at-bats. (He needed about 20 more than Ashley.) Nieves did, however, hit 14 home runs, so he should fit in quite well with the Tigers. He is poor defensively, but his 30 homer potential will keep him in the lineup if he doesn't strike out too much. The right fielder is Bob Higginson, an average defender who last year as a rookie reached double digits in homers despite the fact that his average was in the low .200's.

Danny Bautista will also get some playing time in right field. The center fielder is Chad Curtis, a good young player. Through hard work, he has turned himself into an above average defender with 20 home run power. He can also steal 40 bases. However, the Tigers are so pathetic that even players the caliber of Fryman, Fielder, and Curtis will not keep them out of the cellar. In fact, the Tigers would love to trade Fielder, but his \$9 million salary and bad back precludes that. It's going to be a long year in the Motor City.

## PASADENA IS FAMOUS FOR MORE THAN JUST THE ROSE BOWL



### Committed to Excellence, Free Support.

We are committed to giving you a high quality, reliable system. All systems are assembled by us right here at our headquarters. Quality control is strict with every system being tested and burned-in 72 hours before delivery. All systems come with a one year carry-in parts and labor warranty, no question asked. And our service personnel are trained to provide technical support at no charge to you.

### Satisfaction Guaranteed!

Most of our customers have been with us for a long time. We do all we can to make sure you're happy. If for any reason you have a problem with your system, we offer a 30 day money back guarantee. We offer a full 1 year warranty covering parts and labor. We also have a GE 3 year additional warranty & Action Call Software support membership available as an option.

### About Pasadena Computer Center.

Pasadena Computer Center is located in Pasadena, CA with branches in New York. With almost ten years in the industry, Pasadena Computer Center learned how to serve its customers well. Some of our repeat customer include the Jet Propulsion Laboratories (JPL), GTE, U.S. Postal Service, Rockwell, Pacific Bell, UCLA, USC, Los Angeles Unified School District, Cal Tech, Edwards Air Force Base, Kaiser Permanente, and many community colleges. No matter if you're looking for a computer to use at home or a hundred computers for the office you'll get the quality and service you expect.

### WIN 95 MEDIA SCSI-2

- > Intel Triton Chipset, Intel Pentium CPU w/fan
- > 256KB Pipelined Burst Cache
- > 16MB EDO Memory
- > 2GB ATA-2 Mode 4 SCSI Hard Drive
- > Adaptec 2940 PCI SCSI-2 Controller
- > 3.5" 1.44MB Floppy Drive
- > Diamond Stealth 2001 Video w/2MB(MPEG Playback Ready)
- > Viewsonic 17" 1280 .28 NI Digital SVGA Color Monitor
- > 6X SCSI CD-ROM Drive
- > Sound Blaster AWE 32, Amplified Speaker
- > 104+ Key Windows 95 Keyboard & 3 Button Mouse

**PENTIUM 100MHZ \$2495 / PENTIUM 150MHZ \$2775**  
**PENTIUM 120MHZ \$2575 / PENTIUM 166MHZ \$3010**  
**PENTIUM 133MHZ \$2650**

### PERFECT MPEG 6X STATOPN

- > Intel Triton Chipset, Intel Pentium CPU w/fan
- > 256KB Pipelined Burst Cache
- > 16MB Memory
- > 1.2GB Fast EIDE Mode 4 Hard Drive
- > 3.5" 1.44MB Floppy Drive
- > Diamond Stealth 2001 Video w/2MB(MPEG Playback Ready)
- > 15" 1280 .28 NI "Power Saving" SVGA Color Monitor
- > 6X Multisection 900KB/sec CD-ROM Drive
- > 16bit Sound Card, Pair of Amplified Speaker
- > 104+ Key Windows 95 Keyboard & 3 Button Mouse

**PENTIUM 100MHZ \$1495 / PENTIUM 150MHZ \$1835**  
**PENTIUM 120MHZ \$1595 / PENTIUM 166MHZ \$2035**  
**PENTIUM 133MHZ \$1685**

### MULTIMEDIA BEST BUY

- > Intel Triton Chipset, Intel Pentium CPU w/fan
- > 256KB Pipelined Burst Cache
- > 8MB Memory
- > 850MB Fast EIDE Mode 4 Hard Drive
- > 3.5" 1.44MB Floppy Drive
- > PCI SVGA Card w/1MB Memory
- > 15" 1280 .28 NI "Power Saving" SVGA Color Monitor
- > 4X Multisection CD-ROM Drive
- > 16bit Sound Card, Pair of Amplified Speaker
- > 104+ Key Windows 95 Keyboard & 3 Button Mouse

**PENTIUM 75MHZ \$1150 / PENTIUM 133MHZ \$1430**  
**PENTIUM 100MHZ \$1250 / PENTIUM 150MHZ \$1590**  
**PENTIUM 120MHZ \$1340 / PENTIUM 166MHZ \$1790**

### INTERNET READY TO GO !!

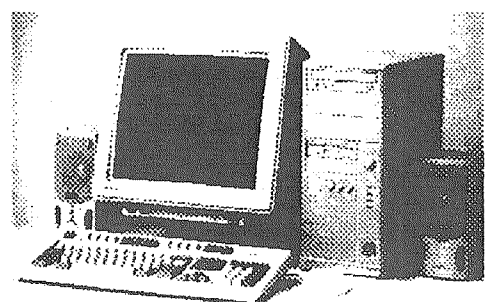
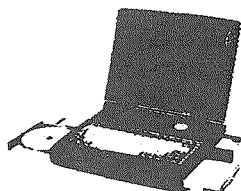
- > Free InterNet Software Included: World Wide Web, E-Mail, Netscape Navigator, Browser .....
- > Intel Triton Chipset, Intel Pentium CPU w/fan
- > 256KB Pipelined Burst Cache
- > 8MB Memory
- > 1.2GB Fast EIDE Mode 4 Hard Drive
- > 3.5" 1.44MB Floppy Drive
- > 14.4 Fax/Modem w/Voice & Answering Machines
- > Free Condenser Microphone
- > PCI SVGA Card w/1MB Memory
- > 14" 1024 .28 NI "Power Saving" SVGA Color Monitor
- > 4X Multisection CD-ROM Drive
- > 16bit Sound Card, Pair of Amplified Speaker
- > 104+ Key Windows 95 Keyboard & 3 Button Mouse

**PENTIUM 75MHZ \$1225 / PENTIUM 133MHZ \$1495**  
**PENTIUM 100MHZ \$1325 / PENTIUM 150MHZ \$1625**  
**PENTIUM 120MHZ \$1425 / PENTIUM 166MHZ \$1815**

### MOBILE MULTIMEDIA

- > 11.3" Big Dual Scan Color Screen
- > 8MB Memory
- > 810MB EIDE Hard Drive
- > Built-in IBM Like Track-Point Mouse
- > Built-in 1.44MB Floppy Drive
- > Built-in 4X Multisection CD-ROM Drive
- > 16bit Sound Card, Microphone & Speaker
- > Two PCMCIA II & One PCMCIA III
- > NiMH Battery, Carry Case

**PENTIUM 75MHZ \$2395 / PENTIUM 120MHZ \$2585**  
**PENTIUM 100MHZ \$2495 / PENTIUM 133MHZ \$2685**



# PASADENA COMPUTER (818)568-1088

1756 E. Colorado Bl., Pasadena, CA. 91106 (West of ALLEN)

TECH (818)568-0439  
FAX (818)568-9132

Hours of Operation: (Mon-Fri) 9:00am-6:00pm (Sat) 10:00am-5:00pm. Prices, specifications, terms and conditions are subject to change without any notice. Prices do not include shipping. 30 day money back warranty does not include shipping, return shipping and opened software. Prices above reflect 3% cash discount. No responsible for errors in typesetting. We accept personal and company checks and corporate purchase orders (OAC). Government sales & school districts P.O.'s welcome!

## Rag Time on Green

RESALE CLOTHING for WOMEN

1136 E. Green St. • Pasadena (818) 796-9924

Wed 10-6 • Mon-Tue-Thu-Fri 10-5 • Sat 10-3

WE ACCEPT VISA AND MASTERCARD



World Wide Air - Ocean Shipping Services

Household goods - Cars Commercial shipments Door to Door Logistics Consolidated cargo or straight loads

Offices in LA & SFO Call 800-383-3157

Announcements

**Millikan Space Allocation Task Force's User Survey** by April 10th, please stop in and pick up a copy at any of the service points in Millikan Library. This is your chance to help shape the Millikan environment to better serve your needs. Please return survey forms no later than April 30th to Ginny Tormey, at MSC 1-32.

The Caltech Y is starting a **food and toiletry drive** benefiting the **Pasadena AIDS Service Center and Union Station Homeless Shelter**. They will be collecting canned food and toiletry items such as soap, shampoo, disposable razors, etc. The first collection box will be available at the Caltech Y, located on the second floor of the Winnett Student Activity Center. If you would like to request a donation box in your building, please send the name of a contact person from your department and the name of the building and room number where the box will be placed to the Caltech Y, MC 218-51.

**Caltech Guitar Classes** will be given by Darryl Denning (e-mail [ddenning@cco.caltech.edu](mailto:ddenning@cco.caltech.edu), phone (213) 465-0881), and are free to students and staff as space permits. Classes are given every Tuesday between 4:30 and 5:30pm for beginners, 3:00 and 4:00pm for intermediate level guitarists, and between 5:30 and 6:30pm for advanced guitarists in the first room of the SAC.

The Deans are interested in hearing from you if you would like to attend New Student Orientation (Camp) as a **UCC-at-Large** and have not already been selected by your House. Camp is scheduled for Wednesday through Friday, September 25th through 27th, 1996. The Deans are accepting nominations for these seven Upperclass Camp Counselors-at-Large positions through Monday, April 22nd, 1996. We will also need to bring some additional student participants to camp to perform special functions such as audio visual specialist, kitchen coordinator, and photographer. If interested, submit a brief written description of your unique qualifications (campus activities, talents, experience with audio visual assisting, photography, etc. and why you want to attend camp) as a UCC-at-Large and/or Deans' Helper to the Deans' Office, 102 Parsons-Gates, by Monday, April 22, 1996. We hope, with your help, to add to the diversity of the Camp experience for the new students. Also, upperclass students participating in new student orientation must be eligible for fall 1996 classes by the June UASH meeting or they will not be able to attend camp in September. If you have questions about this, please see one of the Deans.

Events

On Friday, April 19th, at 4pm, **Ira Herskowitz**, chairman of the Department of Biochemistry and Biophysics at UC San Francisco, will be giving a Biology 0.1 Seminar entitled **"How do Proteins and DNA Implement Regulatory Switches?"** in the Baxter Lecture Hall. This lecture series is designed to provide an opportunity for non-biologist members of the Caltech/JPL community to increase their awareness and understanding of the biological revolution and its implications. The lectures are designed as an interconnected series which addresses the most central and fundamental problems in biology, both from the standpoint of what

we know as well as what we do not yet understand. The lectures are presented by members of the Biology Division faculty as well as by guest outside speakers. All will be directed at a "lay" scientific audience. No prior knowledge of biology is necessary to understand them.

Professor **Jean-Paul Revel** of the Caltech Biology Department will be giving a Biology 0.1 Seminar entitled **"How do cells work?"** on Friday, April 26th, at 4pm in the Baxter Lecture Hall. All are invited.

Theatre Arts of the California Institute of Technology are proud to present **Inherit the Wind**, a play by Jerome Lawrence and Robert E. Lee, on April 26th and 27th, May 3rd, 4th, and 11th at 8pm, and May 5th and 12th at 2pm in the Dabney Lounge. General Admission is \$8, students \$5. Tickets are available at the Caltech Ticket office.

Professor **Elliot Meyerowitz** and Associate Professor **Paul Sternberg** of the Caltech Biology Department will be giving the next Biology 0.1 Seminar entitled **"How is the information that encodes proteins stored and retrieved?"** today at 4pm in the Baxter Lecture Hall.

The **Caltech Ballroom Dance Club** continues its waltz class tonight, Friday April 12th in Dabney House Dining Hall (not Dabney Lounge). Class is held 7:00 to 8:30 p.m. No partner is required, although some waltz experience is recommended. The dance club will also continue their West Coast Swing classes Wednesday nights from 7:00 to 8:30 p.m. Unfortunately, the Winnett Lounge will be in use, so expect to be meeting near Winnett Club Room #1. Please contact Adam Showman at [showman@earth1.gps.caltech.edu](mailto:showman@earth1.gps.caltech.edu) or x 6448 for more information.

Dr. **David Brin**, famous science fiction author, astrophysicist and Caltech alum, will come to Caltech this April 12th to give a talk, on the topic: **"Science or propaganda: Which is more influential to determine human behaviour?"** Put together by S.P.E.T.R.E., the Caltech Science Fiction Club. The lecture will take place on April 12th at noon, in the Sturdivant Lecture Hall, 153 Noyes. Refreshments will be served at 11:45am. For further information, please send e-mail to [spectre@cco](mailto:spectre@cco), or call (818) 577-5384.

The tenth annual **All Mozart Concert** will be held on Saturday, April 13th, at 8pm as well as on Sunday, April 14th, at 3pm, in the Dabney Lounge. On the program: Fantasia in F, K. 608 and Divertimento No. 3 in B-Flat, K. 439c performed by the Caltech Chamber Music Program directed by Delores Bing; Divertimento in D Major, K. 136 performed by the Caltech Chamber Orchestra with Conductor Allen Gross; Solemn Vespers, K. 339, performed by the Caltech Chamber Singers conducted by Donald Caldwell. Admission is free.

The **Caltech Jazz Bands** will be playing at the Baked Potato (26 E. Colorado in middle of Old Town Pasadena) with guest soloist Bobby Rodriguez on Sunday, April 14th, at 8:30pm. General admission is \$8, students only \$4. For reservations, please call 564-1122.

Mints

denotes a new announcement or events in Bosnia.

From the Counseling Center

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? You are invited to the **Gay/Lesbian/Bisexual Support Group**, which meets on the first and third Tuesdays of each month from 7:30pm till 10:00pm in the Health Center lounge. 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 discusses a particular relevant topic and then moves on to the general discussion. Refreshments are served. If you would like more information, please call x8331.

Are you looking for help in dealing with **procrastination**? A six-week Procrastination Group for graduate and undergraduate students will be offered beginning Monday, April 15, 1996. The group will provide: an opportunity to discuss procrastination difficulties, examine the psychological issues which may contribute to procrastination, and present ways to begin to overcome procrastination. 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 Mondays from 3:15pm to 4:45pm in the Health Center Lounge. Prior to the group anyone interested in attending should meet with one of the group leaders. During this meeting more information about the group will be provided and it will be decided if the group is likely to be helpful to you. This meeting is required in order to attend the group. Call Virginia at the Counseling Center Ext. 8331 to schedule a meeting.

The Counseling Center will be offering a **workshop on relaxation and stress management**. Over four weekly one-hour sessions, Dr. Jon Pedersen and Jamil Ali, M.A. will teach interested students a variety of relaxation techniques aimed at the management of daily stress. The workshop will include some video and lecture material but will primarily consist of individual exercises in relaxation techniques including muscle tensing, imagery, passive and active concentration, and an introduction to non-mystical meditation. The focus of the workshop will be on practical methods for everyday use, which can be learned quickly with daily practice. The workshop will meet again on Tuesday, April 16th, from 12:00pm to 12:50pm, and will continue for the next two Tuesdays. Participants will attend all four sessions. If you are interested in participating, please contact the Counseling Center at Ext. 8331.

Fellowships and Scholarships

**Project Vote Smart** has announced that a generous grant from the Hearst Foundation is making over \$50,000 in scholarships available to stu-

dents who want to work on the "Voter's Self Defense System" this spring and during the entire 1996 presidential election series. This project, through a phone hotline and a web-site, attempts to help give voters "a way to defend themselves from the a manipulative mudslinging of political campaigns" by providing an instantaneous way for voters to access the facts. Students interested in learning more can contact Ann Yoders at either (541) 737-3760 or by e-mail at [ann@vote-smart.org](mailto:ann@vote-smart.org).

From the Fellowships Advising and Resources Office, extension 2150, e-mail [lauren\\_stolper@starbase1.caltech.edu](mailto:lauren_stolper@starbase1.caltech.edu):

If you are an undergraduate interested in learning more about **graduate fellowships** such as the NSF, Fulbright, Marshall, Rhodes, DOD, etc., you are invited to a meeting to be held by the Fellowships Advising and Resources Office on Wednesday, April 17th, at 12 noon in the Winnett Club Room 1 Please RSVP with your name and how many slices of pizza you'd like to [lauren\\_stolper@starbase1.caltech.edu](mailto:lauren_stolper@starbase1.caltech.edu) by Friday, April 12th.

Students interested in obtaining financial aid in order to participate in **volunteer and study programs in the developing countries** of Asia, Africa, and Latin America can request a free brochure, "Travel Grants for educational Programs in the Third World" via e-mail. E-mail your request, your name, and your complete mailing address to [ISICgrants@cieet.org](mailto:ISICgrants@cieet.org).

**Attention Graduating Seniors:** Many private high schools and middle schools offer one year fellowship programs for graduating seniors who would like to teach for a year. Positions are usually paid. Some fellowships are in day schools and some in boarding schools. If you would like to have us send you a copy of a list of such programs plus a guide that tells you more about these fellowships please e-mail the Fellowships Advising Office. Give your name, specify teaching fellowships in the subject or body and give your box number.

The **Lindbergh Foundation Grants Awards** support innovative ideas at their early stage of development. The grants are open to citizens of all countries and support research and educational projects that address in some way the balance between technology and the environment. Ten grants in amounts of up to \$10,580 are awarded each year. Applications are available through the Fellowships Advising Office.

From the Deans' Office, 102 Parsons-Gates:

Teachers are needed for this summer's **Academy by the Sea** academic boarding program in the following areas of expertise: English, English as a Second Language, Computer Science, Math, French/Spanish, Science (Environmental/Oceanography), Social Sciences (World, U.S. History). The qualifications to work in the program are a Bachelor's degree in a related subject and previous experience with youths. All applicants must also be able to work from July 3rd through August 10th. The program is set up for the teachers to teach three morning classes, assist in two recreational activities, and live on-campus in Carlsbad, California. Teachers will also be asked to assist in supervising weekend excursions to Southern California attractions, as well as attend to periodic dorm supervision duties during some evenings and weekends. All participants will be provided with room and board as well as \$2,200. This is a terrific experience working with youth in a California seaside academic program. To apply, please send a resume and cover letter to the attention of: Ms. Eowyn Schutze, Academy by the Sea, P.O. Box 3000, Carlsbad, CA 92018-3000. For more information, please call (619) 434-7564 or Fax (619) 729-1574.

The **Lindsey F. Kimball Research Institute of New York Blood Center** is announcing openings for undergraduate science students for summer research positions in New York at the Re-

search Institute. Participants will be provided with a \$1,500 a month stipend plus housing for the summer. Transportation to and from New York, however, will not be covered. If you are interested, the Deans' Office has a list of the research opportunities at the Research Institute. To apply, please send a curriculum vitae by April 5th, 1996 to: Jan W.M. Visser, D.Sc., New York Blood Center, 310 E. 67th St., New York, NY 10021.

The **Morris K. Udall Scholarship and Excellence in National Environmental Policy Foundation** has created a scholarship program to attract students into careers in environmental public policy, health care, or tribal public policy. Scholarships are awarded on the basis of merit to students who are sophomores or juniors during the 1995-96 academic year and who have excellent academic records and demonstrated interest in and potential for careers in environmental public policy or are Native Americans or Alaska Natives who have excellent academic records and demonstrated interest in and potential for careers in health care or tribal public policy. The scholarship covers eligible expenses for tuition, fees, books, and room and board to a maximum of \$5,000 for one academic year.

From the Financial Aid Office, 515 S. Wilson, second floor:

The **John Gyles Education Fund** is offering financial assistance to students in Canada and the United States. Canadian or American citizenship and a minimum 2.7 GPA are required. Selected students will receive up to \$2,500. **Deadlines for 1996 are April 15, June 15, and November 15** (postmark date). To receive an application, send a stamped (U.S. \$32), self-addressed No. 10 envelope to: The John Gyles Education Fund, Attention: R. James Cogle, Administrator, P.O. Box 4808, 712 Riverside Dr., Fredericton, New Brunswick, Canada E3B 5G4.

Scholarship applications are now available from **The Jewish Community Foundation and The Jewish Vocational Service** for 1996-97 academic year scholarships. Applicants must be Jewish students who will be sophomores, juniors, or seniors in 1996-97, and must have financial need. Applicants must also be legal and permanent residents of Los Angeles county, and must have a minimum 2.5 GPA. To receive an application, write to: Jewish Vocational Service, Room 415, 6505 Wilshire Blvd., Los Angeles, CA 90048 before March 1, or call (213) 653-2858. Completed applications are due April 15, 1996.

The **American Electroplaters and Surface Finishers Society** is offering \$1,000 scholarships to undergraduate and graduate students who will be full-time during 1996-96. Undergraduates must be at least junior standing in 96-97, and both undergraduates and graduates must be studying metallurgy, metallurgical engineering, materials science or engineering, chemistry, chemical engineering, or environmental engineering. Award selections will be based on, but not limited to: career interest in surface finishing technologies, scholarship, achievement, motivation, and potential. Financial need is not a factor. Applications and supporting documents must be postmarked by April 15, 1996.

The **Jewish Family and Children's Services** is pleased to announce the continued availability of financial support for Jewish individuals and their families. JFCS provides hundreds of students loans, grants, and scholarships to Jewish students. Individuals may apply for up to \$5,000. Special scholarships are available for study in Israel. To be eligible, students must have financial need, have at least a 3.0 GPA, and be residents of San Francisco, the Peninsula, Marin or Sonoma counties, or the Bay Area. There are no deadlines—applications are accepted throughout the year. The Financial Aid Office has applications.

The **Nuclear Age Peace Foundation** announces its **Lena Chang Scholarship Awards** for 1996-97. The Foundation will be awarding two \$2,500 scholarships to undergraduate minority students who can demonstrate financial need and academic excellence. Applications are available at the Financial Aid Office and are due to the Nuclear Age Peace Foundation no later than July 1, 1996.

**GOLDEN GLOBE**  
**PARIAN TRAVEL**  
 Caltech Officially Approved  
 Most professional, courteous, economical and efficient service for your official and personal travel needs. Free service to you. We deliver.  
 Airlines, Cruises, Tours, Hotels, Car Rentals. Individual, Commercial, Groups.  
**(818) 577-8200**  
 468 S. Sierra Madre Blvd., Pasadena

**OPTOMETRISTS**  
 PLAZA PASADENA  
 Dr. Alan Siegel  
 An Optometric Corp.  
 Dr. Svetlana Fisher  
**(818) 577-7205**  
 Your Own Doctor's Prescription Filled—ONE HOUR SERVICE  
 LAB ON-PREMISES • ONE HOUR SERVICE IN MOST CASES  
 OPEN 7 DAYS A WEEK

**Coupon**  
**\$89**  
 DAILY WEAR SOFT CONTACT LENSES  
 includes Exam, Fitting, and Follow Up  
 Reg. \$130 Selected Brands Only  
 With Coupon Only. Not Valid with other offers.

**Coupon**  
**\$99**  
 EXAM, FRAME & LENSES  
 Reg. \$159  
 Single Vision  
 Choose From Our Special Selection of Frames  
 With Coupon Only. Not Valid with Other Offers.

We feature the **ReNu** regimen by Bausch & Lomb—The easiest way to take care of contacts.

**ACADEMY BARBER SHOP**  
 27 N Catalina Ave., Pasadena  
 Open Tues.-Sat., 7:30A.M. -4:00 P.M.  
 (818) 449-1681

**OCEAN CORAL Restaurant**  
 ★★ Award Winner ★★  
 Mandarin Cuisine & Seafood  
 Cocktail Lounge  
 Lunch Specials \$4<sup>50</sup> 11:30-3 p.m.  
 Early Bird Specials \$6<sup>25</sup> 3-7 p.m.  
 Classic Dinners 3-10 p.m.  
**Food To Go Welcome**  
**OPEN 7 DAYS**  
**Tel: 449-8018**  
 2475 E. Colorado • Pasadena  
 between Sierra Madre Blvd. & Altadena Dr.  
 Free Parking in Rear

DUE TO A LACK OF SUBMISSIONS,  
 THE INSIDE WORLD HAS BEEN DELAYED.

**THE CALIFORNIA TECH**  
 Caltech 40-58 SAC  
 Pasadena, California, 91125