

Biologist Ed Lewis Wins Nobel Prize in Medicine

by Jay Aller

PASADENA—The Royal Swedish Academy of Sciences announced Monday that Edward B. Lewis, Caltech's Thomas Hunt Morgan Professor of Biology, Emeritus, will share the 1995 Nobel Prize in medicine with two other scientists for "the genetic control of early embryonic development."

This is the 23rd Nobel Prize won by a Caltech faculty member or a Caltech alumnus.

Lewis, 77, is renowned for his work on the genetics of *Drosophila* fruit flies. He has been at Caltech as a student and faculty member since 1939, and for the past five and a half de-

ades he has been studying genetic mutations in fruit flies and how these affect an insect's development.

As the citation accompanying the announcement explained, "his pioneering work on homeotic genes induced other scientists to examine families of analogous genes in higher organisms."

"As you can imagine, I'm overwhelmed. It's quite a shock," said Lewis by phone from



Dr. Edward Lewis

Ascona, Switzerland, where he is attending a scientific conference.

"I think that it's wonderful for my colleagues, because they're very deserving. It's also wonderful that the academy recognized basic research. The benefits of research into the genetics of fruit flies have turned out to be very important for understanding human development and the mechanisms underlying some genetic diseases."

"Ed's contributions have been very profound," said Thomas E. Everhart, president of Caltech. "His work has had, and

will continue to have, an important impact on medicine and on our understanding of how organ-

"As you can imagine, I'm overwhelmed. It's quite a shock."

- EDWARD B. LEWIS
NOBEL PRIZE LAUREATE

genes, genes that influence how the undifferentiated cells in a fertilized embryo separate into a head and a tail end, and how the eyes, legs, antennae, and other organs all form in their correct positions. These genes are highly conserved—that is, they are very similar—in all organisms, and play a role in the development of everything from fruit flies to mice to humans.

Lewis, a native of Wilkes-Barre, Pennsylvania, earned his BA in 1939 from the University of Minnesota, and his PhD in 1942 from Caltech. He currently resides in San Marino, California.

Firefighters Rescue Construction Worker Trapped in Pit

by

PASADENA—In a freak construction accident, a unidentified man was trapped in a 24-foot hole. The Fire and Rescue division of the Pasadena Fire Department removed the man from the hole and rushed him to treatment at Huntington Memorial Hospital.

The man, who was working on the site of the new Fairchild Memorial library, was resting near the hole, where he was about to work. A construction crane traversing the site hit the man and knocked him off balance, causing his fall into the well.

The Fire Department responded to the first reporting of the incident within an estimated 15 minutes. Firefighters were unable to simply throw the man a rope and help him up because of his injuries. The rescue was a difficult one because of the instability of the dirt walls around the man, and the fact that the hole had shown signs of further instability. After nearly half an hour in the pit, the man was removed from the hole in a neck brace, to the cheers of the crowd. Caltech officials at the scene looked the site over in an attempt to improve safety there.

Some students were concerned about the injured worker.

"I hope he's all right. It must have hurt falling down there," one remarked.

Others were caught up in the excitement.

"Oh cool, like that one little baby that fell into the well," said another Techer.



Firefighters load the construction accident victim into an ambulance.

A media circus atmosphere surrounded the accident, with news crews from several stations competing for better shots of the accident.

Overhead, four news helicopters circled the site. Apparently, they were attempting to capture every second of action at the site, squeezing every ounce of story out of the incident. At times, it looked like two of the helicopters were dueling for air space to get the best camera shot of the accident. Unfortunately, this activity caused some consternation to the ground fire crew because there was some worry that there could be an accident. The area also is not zoned for such low flying, and after a few calls, the news helicopters were chased away.

Campus Security stated that

the man is in good condition and has been released from the hospital with a broken leg and assorted bruising.

While the fall was not nearly as deep as it could have been, it brings attention to the problem of construction site injuries. A construction worker who was killed this summer in a similar incident during the construction of Moore labs. A fall was also responsible for that accident, although the circumstances leading to the fall were very different. Even though comprehensive safety courses were provided for workers after the Moore Lab accident, Wednesday's accident probably could not have been prevented.

Olga Todd, Professor of Mathematics, Dies

courtesy of the Caltech
Mathematics Department

Olga Taussky-Todd, Professor Emeritus of Mathematics, died on October 7th, 1995. She is survived by husband, John Todd, also Professor Emeritus of Mathematics.

Olga Taussky-Todd began her active mathematical career in 1930. She received much of her training in mathematics from Furtwangler and Emmy Noether, one of the founders of modern algebras, and she served as an assistant to Courant when she spent a year at Göttingen. She joined the Caltech faculty as a Research Associate in Mathematics in 1957. She was promoted to the rank of Professor of Mathematics in 1971 and to Professor Emeritus of Mathematics in 1977. She was the first woman to be appointed Professor in the Division of Physics, Mathematics and Astronomy.

Her specialties in mathematics were algebraic number theory and matrix theory, and in both fields she was recognized as one of the world's leading experts. Among her many honors and awards, she received an Honorary Doctorate from the University of Southern California, she was



Professor Olga Taussky-Todd

elected a Fellow of the American Association for the Advancement of Science, she was a Corresponding Member of the Bayerische Akademie der Wissenschaften, and she was awarded the Medal of Science by the Austrian Ministry of Science and Research. In addition, she was elected to the Council of the American Mathematical Society in 1972 and served on it until 1985, when she was elected Vice President of the Society. In 1976, she was honored as one of the foremost living women in mathematicians at a symposium at Caltech. She will be sadly missed.

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Editors' Corner

From your Friendly Tech Editors
(and their friendly sidekicks)

What a week! We actually got a wonderful amount of submissions, and we're excited for more. Thanks again to Autumn Looijen and Samantha Gizerian for great layout work.

We've rejuvenated our mailing list from last year. On our list, we post suggested story ideas to potential writers and get feedback. If you'd like to join our list, please send email to editors@tech. Undergraduates, graduates, professors and staff members are all very welcome to participate. Also, if you're a member of a club and your group does something special, please write an article or share it with us.

It's not too late to add PA15 and receive three units of pass/fail credit! Stop by the Coffeehouse today at 12:15 with an add card and join our staff! Free food and nearly free credit, all in one!

Deadlines for Submission to The Tech

Letters to the Editor — 5 P.M. Monday

Events and Notices — 5 P.M. Tuesday

Unsolicited Articles — 5 P.M. Tuesday

Regular/Semi-Regular Columns — 5 P.M. Wednesday

Articles, News Submissions — 5 P.M. Wednesday

Art/Photo Submissions — 5 P.M. Thursday

Letters to the Editor

California Blvd a threat to students

Dear Editor,

In reference to the letter by Keil Maberry on the "de-emphasis" of California Blvd: I have lived on California Blvd. for more than 25 years.

I want the students to be aware that street intersections on California Blvd. have relatively high accident rates for pedestrians, bicycles, motorcycles and cars. I can single out the intersections at Los Robles, Wilson, and Hill Avenues, and the pedestrian crosswalk at the tennis courts, which has a delayed activation for good reason.

Left turns and running red signals are frequent culprits; speeding is also a problem, with the average speed on Calif. Blvd. probably at about 40 mph. Using Del Mar Blvd. has the disadvantage of PCC traffic. One last word of advice I obtained from a City Engineer, as of ten years ago: "only a fool would ride a bicycle on California Blvd." These days, when motorists are more aggravated with what is perceived

as forced traffic congestion due to the "de-emphasis", all of us should be even more cautious on California Blvd.

Sincerely,

D. A. Papanastassiou

Students' opinions heard in graduation speaker choice

Dear Editor,

As chair of the Convocations Committee, I was a bit puzzled by some of the statements of candidates for Senior Class President printed in the Tech Oct. 6.

Last year, seniors were polled twice about their choices for graduation speaker, and each time, Pres. Everhart made every effort to get the students' first choice to come. We were led by the first speaker's office to believe that he would come, but he eventually had a schedule conflict. So students were polled again, and the President again tried very hard to recruit their first choice.

The person ultimately chosen to give the Commencement

Address, Dr. Mark Wrighton, a Caltech Ph.D., a MacArthur Fellow, a former MIT Provost, and now President of Washington University, gave an extremely interesting speech which was quite well received.

Last Spring, before graduation, nomination sheets were posted at all the undergraduate houses by Junior Class President Nestor Ocampo. They were tallied and a report given to President Everhart. He is now again attempting to interest one of the students' top choices. (There was no overwhelming first choice this time.)

I look forward to working with the student officers to make this year's Commencement memorable. The Committee and the Administration have taken students' opinions into account and will do so in the future. Anyone with any suggestions for graduation activities or for any method for getting a larger proportion of students to take part actively in planning for and organizing graduation activities, please email me at Kousser@hss. Morgan Kousser, Prof. of History and Social Science

Please send submissions for letters to the editor to

The California Tech,
Caltech 40-58,
Pasadena, CA 91125,

or by electronic mail to editors@tech.caltech.edu.

Deadline for submissions is Monday at 5pm on the week of publication. The editors reserve the right to edit or refuse to print any letter for any reason.

CSS Starts New Year

by Joseph Trela

The Caltech Space Society will have its first major meeting of the year this Saturday at 6:00 p.m. at Winnett Lounge. This marks the third year of the club's existence under the leadership of Cherish Brown, who has also been a member of the national board for Students for the Exploration and Development of Space (SEDS), an organization with over 100 chapters in high schools and colleges across the nation.

The purpose of the Caltech Space Society is to promote public education and awareness about space, the space program and the technological and scientific benefits accrued from both.

So far, members of the group have accomplished this through educational outreaches at high schools (cool pictures and the like) and displays at science-oriented events (such as last year's premiere of "Star Trek: Generations" at the United Artists Theaters in Old Pasadena).

In addition, members often go on field trips to events such as the IMAX showing of "Destiny In Space", space shuttle landings and overnight star parties in the clear desert air east of Los Angeles.

However, the most important CSS event of the past year

was the IMPACT '95 seminar. The group sent invitations to high schools across the Southland to come to the one-day event to learn about the nature of asteroids and comets.

The 40 students who responded saw computer simulations of the gravitational interactions of bodies in space, watched the creation of a WWW page on the event, which included pictures taken earlier in the day and got the opportunity to make their own comets out of dry ice, water, ammonia and dirt and drop them off of Millikan Library to make craters in a wading pool full of flour-dirt "regolith". The event was highly enjoyed by both the attending students and the CSS members who made it possible (or at least those who weren't covered with dirt and flour at the end).

Therefore, the CSS plans to hold another seminar this year for high-school students; this year's theme will probably be on the problems of humans exploring and developing space. Lots of input is still necessary to finalize what's going to happen, however, and new CSS members are greatly wanted, so if you are interested in spreading the word about space and the exploration thereof, come to the meeting tomorrow at 6:00 p.m. There will be membership forms, free food

CALTECH
public events

EXPECT THE UNEXPECTED

POLITICAL SATIRIST
MARK RUSSELL

FRIDAY, OCTOBER 13, 1995 / 8 PM
Beckman Auditorium

Regular Prices: \$35.00 - 32.00 - 29.00
(Check for availability)
Standing Room Tickets
(available the night of show): \$5.00

California Shakespeare Festival "MUCH ADO ABOUT NOTHING"

SATURDAY, OCTOBER 14, 1995 / 8 PM
Beckman Auditorium

Regular Prices: \$25.00 - 22.00 - 19.00
CIT students can get 2 tickets per I.D. FREE
Staff/Faculty: \$8.00 special RUSH tickets available.

FLYING KARAMAZOV BROTHERS

"CLUB SANDWICH"

SATURDAY, OCTOBER 21, 1995 / 8 PM
Beckman Auditorium

Regular Prices: \$31.00 - 28.00 - 25.00

Coleman Chamber Concerts

BEAUX ARTS TRIO

SUNDAY, OCTOBER 22, 1995 / 8 PM
Beckman Auditorium

Regular Prices: \$22.50 - 19.00 - 15.50 - 12.00
50 FREE tickets available to Caltech students
(limit 2 per I.D.)



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DISCOUNTS

CIT STUDENTS:
Half price for all events
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(subject to availability)

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Call the Caltech Ticket Office at x4652

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Caltech 40-58 SAC, Pasadena, CA 91125
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COPY EDITOR Shay Chinn	Maria Huang Stephen Van Hooser
LAYOUT EDITORS Autumn Looijen Samantha Gizerian	STAFF WRITERS Michael Kantner Stephen Van Hooser Mason Porter Myfanwy Callahan
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EVENTS AND NOTICES Terry Moran	CONTRIBUTORS Laura Brady David Relyea Donna Ebenstein
BUSINESS MANAGER Francisco Gutiérrez	ADVISOR Hall Daily
CIRCULATION	
PHOTOGRAPHERS	

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ASCIT MINUTES

10/6/95

Present: Jon, Dave, Kanna, Ken, Laura, Melissa, Grace, Guppy (Pete Manca)

Meeting would have started at 4, but nobody showed up until about 4:26.

- Grace tells us about the new criteria for varsity letters that Dan Bridges gave her. Grace tells us the new requirements for cross-country, fencing, and golf before she realizes that we have no clue what the requirements for getting a letter in these sports should be. The BOD asks Grace to double check with the coaches to see if the new regulations are okay. Jon also tells Grace about ASCIT's need to pay for the banner for the fencing team of n years ago that won a NCAA title.

- Guppy rolls in and explains the financial situation of the ASCIT Movies. First: THE ERIC HACKMAN THING IS OVER. (Freshmen, if you'd like to know what the Eric Hackman thing was, go find all the minutes from last year pinned up on some house bulletin board and read.) Second: In a typical semester, a few really good movies manage to draw profits, while all other movies lose enough to account for the \$3000/term that ASCIT gives to the Movies. In order to advertise (to increase revenue), the Movies puts up posters and pays for advertisements in the Tech. The BOD considers payment from one ASCIT agency to another slightly ridiculous. The BOD therefore endorses the idea that the Movies should not

have to pay for advertisements in the Tech 5-0-0. Third: The first movie this year, Ghostbusters II, was supposed to be Ghostbusters, so Guppy might be able to squeeze a full or partial reimbursement out of the place they get the movies from. It might have a name. It should have a name. Wish I knew that name. The BOD tells Guppy that Stan Borodinsky might be able to help them with reimbursements. The Movies also needs extra money because The Place They Get The Movies From (TM) uses Breakwater Transport to deliver the movies, and Breakwater likes collecting money on time. The BOD moves to give the Movies an extra \$300, and the motion passes 5-0-0.

- Melissa asks how she's supposed to get the list of all faculty, post-docs, and grad students so she can send out requests for submissions to the UROH. We tell her to ask Gina. Melissa also wants to put the UROH on the Web.

- Laura's report: Jon McDunn drove the van to pick up ASCIT donuts. The van is happy.

- Ken brings up the huge problem with continuity with the present system of putting out the Clue. Juniors who run for Academic Director at Large have to put out the Clue for the year AFTER they've graduated. We might someday have a problem chasing around a graduated ex-Director of Academic Affairs to get the Clue put out. Jon says the BOD should decide what to do about this before elections next term. Ken also hasn't given out the Teaching Awards yet because haven't come in yet. The producers of the awards say they haven't gotten the artwork for the

awards yet. Ken says he'll personally give the artwork to the producers in a few days.

- Dave will contact somebody to get the Bylaws in their CORRECT form on the Web. Also, in order for the Tech to be able to save precious space for.... something, Dave promises to put all the action items (Directors Reports and ASCIT Agency updates) at the top of the minutes, reserving his inane drivel and chatter for the bottom of the minutes, similar to the way that iced-tea mix powder settles toward the bottom of the container, causing the last person to drink iced tea to get that sugary sludge ten times as powerful as regular iced tea. Actually, there's no similarity at all between the ASCIT Minutes and iced tea. Forgive me.

- Jon brings up the Faculty Board Committee Meeting that will occur on Monday, Oct. 9. Among other things, the Board will discuss the Steering Committee of the Core Curriculum Council (which gives suggestions about where the Core should be headed to the CCC). Apparently, the Steering Committee currently has no undergraduate members. Jon will attempt to put undergraduates on the Steering Committee. Jon will also talk with Student Affairs about centralizing budgets for Club Activities.

Respectfully submitted,

David Relyea

ASCIT Secretary

Caltech Physicist Shares Prize for Role in Finding Gluons

by Caltech Public Relations

PASADENA — Caltech Professor of Physics Harvey Newman and his collaborators on the MARKJ physics project shared a special prize in July from the European Physical Society with three other research groups "for establishing the existence of the gluon."

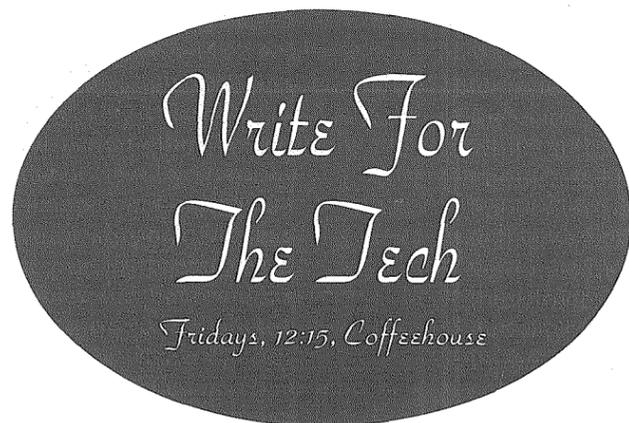
Gluons are the fundamental packets of energy that bind together quarks—the fundamental building blocks of matter—to form more complex particles such as pions and kaons, and the protons and neutrons that make up the core of every atom. Gluons carry the "strong force" that, along with gravity, electromagnetism, and the weak force, make up the four fundamental forces of nature.

The scientists proved that gluons exist by means of the MARKJ project, which operated at the DESY laboratory in Hamburg, Germany, from 1978 to 1986. The experiment succeeded in accurately measuring the energy and direction of jets of particles produced in high-energy collisions between electrons and positrons. Normally such high-energy collisions produce quarks and antiquarks, which appear as two jets of par-

ticles. But sometimes the collisions also produce a third jet, clearly separated from the other two, that originates from a high-energy gluon.

Newman led the team of physicists that was able to isolate events in which a third jet was present, and to show that both the rate of production and the shape of the jets agreed with predictions based on the theory of quantum chromodynamics. This was the first direct observation of gluons. The MARKJ experiment used a "calorimetric" detector that surrounds the point where the electrons and positrons collide and annihilate each other. It measured the energy of jets by sampling the energy deposited in layers of a plastic scintillator interleaved with layers of lead and iron.

The work was done by a collaboration of 57 physicists from the University of Aachen in Aachen, Germany; the DESY Laboratory in Hamburg, Germany; MIT in Cambridge, Massachusetts; the NIKHEF Laboratory in Amsterdam, Holland; the University of Madrid in Spain; and the University of Beijing in China. Newman was co-spokesman for the experiment, and headed the data analysis effort that led to the gluon discovery.



WORLD NEWS REPORT

by Maria Huang and Myfanwy Callahan

PASADENA, CA. — The details of the 1993 Halloween murder case of three Pasadena teens unfolded for the first time Tuesday in the supreme court. Police believe the killing resulted from gang members in north Pasadena seeking revenge. Each attorney of the three defendants is confident in proving his client innocent.

SAN FRANCISCO, CA. — Even as companies are trying to exploit the Internet for its commercial possibilities, newly found weaknesses in the structure make a costly redesign necessary before such development. Right now an eavesdropper or criminal can copy or alter a document in transit and send it on, without the receiver knowing of it.

PHOENIX, AZ. — Several cars of an Amtrak passenger train derailed early Monday southwest of Phoenix. A crewman was killed and dozens of people were injured. The evidence at the scene indicates sabotage, and the F.B.I. has started its investigation.

MANZANILLO, MEXICO. — A luxury hotel in Mexico collapsed in an earthquake measuring 7.6 on the Richter scale, killing 18 people. The building had been severely damaged in an earthquake in 1985, but was allowed to reopen after superficial repairs. The death toll for the entire area is 48.

PARIS, FRANCE. — More than half of the public-sector employees in France went on a one-day strike on Tuesday, wreaking havoc on the daily routine of millions.

The strike protested the government proposal to freeze state

payrolls in an effort to lower the deficit, a necessary measure before a European currency can be established.

SARAJEVO, BOSNIA. — The Bosnian Serbs are undertaking a huge new "ethnic cleansing" campaign around Banja Luka. Thousands of women and children were expelled from the city and men taken away, U.N. officials stated. The cease-fire is delayed once again as the Bosnian government says restoration of Sarajevo is inadequate.

NABLUS, ISRAELI — occupied West Bank. 900 Palestinian men were set free from detention in Israel on Tuesday. Two dozen women remain confined. Israeli authorities are taking their first steps toward withdrawal from the West Bank.

Friday Night ASCIT Movie

3 WINNER
GOLDEN GLOBE NOMINATIONS
Including
BEST ACTOR — Tom Hanks (Drama)

PHILADELPHIA

PG-13

Next Week: Die Hard with a Vengeance

Baxter Lecture Hall

Show times 7:30 & 10:00

\$1.50 ASCIT members \$2.00 All others

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

Jane Austen's PERSUASION

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

Parkman explains gene therapy

by Ben Williamson

Last Thursday, Dr. Robert Parkman presented a seminar on gene therapy.

It seemed to be targeted at those who had little previous knowledge of genetics, but was still interesting and enlightening in many respects. While he did discuss the technologies and methods of gene therapy, he seemed more focused on the ethical ramifications, using the scientific details only for background.

He began with a discussion of the various vectors used in gene therapy. A vector is a combination of a clone of the normal gene that is to functionally replace the abnormal gene to be corrected, a virus to infect the cell, and a promotor to regulate which cells are infected by the chosen virus. The most common virus used in the vector is a retrovirus taken from rat RNA, but other viruses such as adenoviruses are often used, each having its particular advantages and disadvantages.

Dr. Parkman went on to say give several examples of attempts at genetic therapy for such disorders and diseases as familial hypercholesterolemia, adenosine deaminase deficiency, cystic fibrosis, and cancer. Unfortunately, for most cases so far, genetic therapy is less effective, less efficient or considerably more costly than alternative treatments. Specifically, in the case of adenosine deaminase deficiency, the gene therapy costs \$250,000. As he stated at the beginning of the seminar, current gene therapy is to a large degree more hype than reality. He did however stress that continued research could uncover better treatment methods that would be more viable alternatives to current methods.

After the background information on gene therapy, Dr. Parkman began discussing first the political restrictions on gene therapy, then the ethical ramifi-

cations. In 1976, the RAC, Recombinant DNA Committee was formed primarily to monitor modified microorganisms such as bacteria. Later, in 1987, as genetic modification of higher lifeforms became more common, a Human Gene Therapy Subcommittee was formed. In 1991, the RAC and HGT-SC merged.

The discussion on the ethics of gene therapy included the ethics of genetic enhancement, the ethics of in utero gene therapy, and the ethics of germline gene modification. The once and future stance of the RAC is basically that while genetic correction of disorders is well and good, modification of someone so that they can fire optic blasts or leap tall buildings in a single bound is nonethical and thus forbidden. Another ethical question is that of changing the genetic structure of a fetus prior to it being born. In situations that are life-threatening to the fetus, this is not a problem. Other wise, their could be moral complications, as well as an associated ethical complication due to germline genetic modification, which is related to the genetic modification or therapy of the fetus. Basically, germline modification means the modification of the reproductive system of the recipient of the therapy such that any of their offspring would also have their genetics altered. Since most vectors are too non-specific to just modify what portion of the body needs to be modified, this germline modification has ramifications not just for one person but for at least a portion of the future human population.

The seminar was relatively interesting, although most of the scientific content could be picked up in considerably less time from a copy of Discover or some such publication. What made the seminar worth attending were the ethical discussions and the post-seminar random question and answer session.

DILBERT ® by Scott Adams

DOGBERT, CORPORATE JET PILOT
THIS IS YOUR CAPTAIN SPEAKING...

IF YOU'D LIKE TO LAND SAFELY, THERE'S SOMETHING I'VE ALWAYS WANTED TO SEE A CEO DO.

THIS IS SO NOT FUNNY.

THIS IS CAPTAIN DOGBERT WITH SOME GOOD NEWS AND SOME BAD NEWS.

THE GOOD NEWS IS THAT WE'LL BE HITTING TOWN TEN MINUTES AHEAD OF SCHEDULE...

THE BAD NEWS IS WE'LL BE HITTING TOWN.

IT LOOKS LIKE THE PLANE'S GOING DOWN AND THERE'S ONLY ONE PARACHUTE.

GIVE IT TO ME!!! I'M A CEO WITH A HARVARD MBA. YOU'RE A DOG!!

THAT'S MY KNAPSACK.

WE'RE POISED FOR SUCCESS. WE EXPECT HUGE EARNINGS AND INCREASED MARKET SHARE!

NEXT ON THE AGENDA... THERE WILL BE NO RAISES BECAUSE IT WILL BE A DIFFICULT YEAR...

CAROL, I THOUGHT I TOLD YOU TO PUT THE "UNITED WAY" UPDATE BETWEEN THOSE TWO AGENDA ITEMS.

OOPSIE.

YOUR RESUME DOESN'T LIST ANY EXPERIENCE AS A JET PILOT, MISTER DOGBERT.

HOW HARD COULD IT BE?

YOU COULD SPEND A LOT OF MONEY ON SOME PRETTY BOY PILOT WITH EXPERIENCE, OR YOU CAN SAVE A FEW BUCKS AND HAVE ME DRIVE THE CORPORATE JET.

I AM UNDER A LOT OF BUDGET PRESSURE... AND I'M NOT ALLOWED ON THE JET MYSELF...

IT HAS A PILOT EJECT SEAT, RIGHT?

DOGBERT, CORPORATE JET PILOT
ATTENTION, PASSENGER.

I'M CAPTAIN DOGBERT. THIS IS MY FIRST FLIGHT. I'LL BET YOU WISH YOU HADN'T CUT THE CORPORATE TRAINING BUDGET.

FOR SAFETY, KEEP AN EYE OUT THE WINDOW... IF IT LOOKS LIKE WE'RE GONNA HIT THE GROUND, TRY JUMPING UP RIGHT BEFORE IMPACT.

WE'LL SUCCEED IF WE UNDERSTAND WHO OUR COMPETITORS REALLY ARE!

MY COMPETITION IS DILBERT AND ALICE, WITH WHOM I COMPETE FOR SALARY INCREASES AND RARE PROMOTION OPPORTUNITIES.

I MEANT OUR EXTERNAL COMPETITION.

TELL ME AGAIN WHAT WE MAKE.

NO RAISE FOR YOU, IDIOT BOY.

I'VE DECIDED TO GET MORE INVOLVED WITH YOUR PROJECT.

I'M JUST GOING TO ROLL UP MY SLEEVES AND PITCH IN.

DOES ANYBODY KNOW HOW TO WORK THESE BUTTONS?

Engineering and MIS Opportunities



Semiconductor chips are at the heart of the global digital revolution. And innovative wafer manufacturing systems, processes and services are core enablers of the chipmaking process. That's the world of Applied Materials. We're the world's largest supplier of these key semiconductor manufacturing process technologies. Technologies that enable the chips that drive advanced products from cellular phones and security systems, to automobiles and ATMs.

There's a world of possibilities here at Applied Materials. And now you can learn more about the company and the process of joining us.

Look for us on campus:

Information Session
Tuesday, November 14th, 4-6:00pm
Room 15, Student Action Center

Interviews
Wednesday, November 15th, 8:00am-5:00pm
Career Center 8 Parson Gate

For more details about Applied Materials, check out our binder in the Career Placement office. We're an Equal Opportunity Employer.



APPLIED MATERIALS

Calendar

by Terry Moran

Theater

Here's an event you won't find but once in a millennia: Director Michael Holmes has chosen the Hollywood Methodist Church, with all of its gothic arches and stained glass windows, as a backdrop for his rendition of *Hamlet* that is being held every Friday through Sunday through December 3rd. But this play doesn't even bother with scene changes, though, as Holmes found it best to make use of the church the way the play makes use of the castle by moving the cast, crew, and audience from venue to venue around the church so that the audience truly feels to be a secret observer into the tragedy that unfolds. With spectacular lighting and crew, and a truly fit cast, Holmes is able to create scenes that have been acclaimed as "breathhtakingly eerie." This show makes real what is hard to make interesting.

Other ongoing: *Four Dogs and a Bone*, a comedy by John Shanley, has a cast including Martin Short, Brendan Fraser, and Elizabeth Perkins (if you don't recognize any of these names, you really ought to get out more), and will be showing at the Geffen Playhouse for only another seven weeks! Tickets are through "Telecharge."

For all those looking to relive a bit of their childhood, actor Peter Dennis will be giving two performances of his one-man show *Bother!*, a genius acting of the tales of Winnie the Pooh by A. Milnes Winnie much closer to the original than Disney ever dreamed of being at 7525 Beverly Boulevard in Hollywood on October 14th & 15th at 7:30 p.m.. Dennis' production's of *Bother!* have been widely acclaimed for over the past decade and promise both nostalgia and surprise to audiences of almost all ages.

Also coming up: tickets are available now for *Comic Relief VII* to be held on November 11th at the Universal Amphitheater from \$35 a piece. Benefiting homeless healthcare projects across the US, Comic Relief will be hosted this year by Billy Crystal, Whoopi, and Robin Williams; tickets can be purchased (who 'da guessed?) through Ticketmaster

Concerts

Cooler than life: **The College Fest Way More Weekend** is to be held on October 21st and 22nd at the Olympic Velodrome with the bands No Doubt, Eleven, The Obvious, Extra Fancy, Schtum, and more, as well as a hell of a lot of other events and over 15,000 other college students. Also, this really is a College Fest because its free! But, if you like to spend money, there are also quite a few really good bands coming through: **Belly** and **Catherine Wheel** will be at the Mayan Theater on November 9th; **The Bodeans** with Bill Miller at the House of Blues on Friday, October 13th; **Natalie Merchant** on November 17th and 18th at the Wiltern Theatre (but tickets don't go on sale until Monday at 10 a.m.); **Blues Traveler** on November 21st and 22nd at the Wiltern; **The Pretenders** on October 30th at the Wiltern; and, at the Whisky a Gogo, **Superchunk** with the Spinanes on the 17th and 18th of this month, followed by **Juliana Hatfield** with The John Doe Thing on Saturday the 28th. Lawn tickets for **R.E.M.** with the **Gin Blossoms**, **Meat Puppets**, and **Luscious Jackson** are still for sale for \$28.75 a piece, and there still are some tickets left to the final tour of **Boingo** as well.

Restaurants

I'm sort of a cult-follower to some restaurants in the Los Angeles basin, having frequented them multiple times over the last decade and a half. Another of these restaurants is a very interesting, extremely exotic place called **The Marrakesh**. It's kinda a drive from CIT being in Studio City (13003 Ventura Boulevard), but it offers some of the best Moroccan food and the most genuine atmosphere this side of the Hemisphere. An evening at the Marrakesh brings along kneel-down dinners, eight courses of exquisite cuisine, and belly dancer galore. Truly an evening in and of itself, but the bill may reflect this as well: meals begin at around \$25 a piece, but you won't find that on the menu: that is verbally related as in the style of the nation. (phone number 788-6354)

Movies

* **The Rocky Horror Picture Show** is to celebrate their twentieth anniversary in style this October 21st at the Pantages. The "gates" open at 8 p.m. for the party, followed by a special showing at midnight. To appear: the original actors of the parts Rad Brad, Riff Raff, as well as Magenta. Tickets will be sold at the Pantages as well as through Ticketmaster locations. Or look it up over the web at <http://www.insu.com/rhps>.

* There are a heck of a lot of interesting looking movies out right now, but only one I can personally vouch for. I'm hoping to see **Strange Days** over the weekend; it sounds to be a trip without acid, but some reviews already have bespoke it as being as weak in some places as it is strong in others. All have agreed to the largeness that fills this production, and the fullness that allows no bathroom breaks in the movie's plot. Though mixed in some reviews, *Strange Days* sounds to me to be well worth the ride it brings us on.

On a similar issue, here's a movie that I can actually recommend from experience! If you liked *Pulp Fiction* in any way, shape, or form, you're going to love *Usual Suspects*. I of course never read or heard anything about it before going, and had the distinct impression from the ad that it was a comedy. What I got was a whole hell of a lot better: for a little less than two hours, you got just enough time between each on-the-edge-of-your-seat scene to gasp in a breath. Almost reminiscent of *The Sting* in places, *The Usual Suspects* revolves around the lives of known and proud underworld hired thieves. The plot moves amazingly quick at times and is incredible intricate, never allowing a stay for our minds to wonder. My only complaint was that the ending, though spectacular, was a bit of let down, leaving us with little of the closure we had come to expect from such an epic tale. All in all though, this is a movie I would easily recommend this movie to anyone.

There also is going to be a special preview screening of the upcoming *Mallrats*, the newest flick from Kevin Smith, the maker of *Clerks*, at the Center Green Theater off Melrose on Wednesday, October 18th. For \$15 a ticket, you also get to meet Smith, who will be present for an open interview session before the show. I have yet to hear anything about this movie though (kinda goes along with this being a preview, doesn't it?)

Dedication Ceremony Scheduled for Moore's Stone Volute

by Caltech Media Relations

PASADENA — A dedication ceremony has been scheduled at the site of Caltech's newest public sculpture on campus, Moore's *Stone Volute*, between Noyes Laboratory and Beckman Behavioral Biology Laboratories, at 5:00 p.m. on October 11, 1995. This lyrical work of mortared stone, 6 feet high and 55 feet in diameter, was created by artist Lloyd Hamrol, a longtime resi-

dent of the Los Angeles area. At 4:00 p.m. in the Beckman Institute auditorium prior to the dedication ceremony, Mr. Hamrol will present a slide lecture on the subject of this new sculpture and its relationship to his past work.

Mr. Hamrol was chosen through competitive selection to design and install Moore's *Stone Volute*. It rose along with the Moore Laboratory of Engineering, fulfilling a Pasadena ordinance that requires a work of public art to accompany academic and administrative build-

ings beyond a certain size, and its title honors the new lab's benefactor.

About Moore's *Stone Volute*, the artist says, "It is both architectural and biomorphic in its associations, suggesting a link between the disciplined systems we construct and the mysterious source of their inspiration." Mr. Hamrol, whose works grace public spaces from Alaska to Florida, is a three time recipient of visual arts fel-

"It is both architectural and biomorphic in its associations."

-LLOYD HAMROL
ARTIST

lowships from the NEA His public projects in Southern California include *Uptown Rocker* (Los Angeles); *Twenty-one Stones* (Los Angeles); *Flagstone Ramp* (Fountain Valley); *City Terrace* (Anaheim); *Crown Lair* (Carlsbad); and *Sea Look Out* (Santa Barbara). Mr. Hamrol's last professional appearance on the Caltech campus was in 1969, as one of the many artist-participants in EAT (Experiments in Art and Technology) Celebrates Apollo Moon Landing, an evening of temporary events.



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Please contact us at Winnett 115 or extension 6194 if You are interested.

Ph11 - First Hurdle (1996)

Consider a plane surface that is composed of a rectangular array of atoms onto which a single layer of foreign atoms can be absorbed. (Each absorbed atom sits on top of a surface atom.) The nature of these absorbed atoms is such that one cannot have more than two in a continuous line (horizontally, vertically, or diagonally).

- 1) What is the maximum coverage of absorbed atoms that can occur?
- 2) How does the answer change if the surface is finite in extent, i.e., has a well defined square boundary?
- 3) Are there preferred patterns of the absorbed atoms?

Rules: Clearly state all assumptions made. You may use any reference you like, but you cannot collaborate. The use of computers, etc. is OK. The hurdles are due by Monday, October 23 - by 5 p.m. in 201 Sloan Annex.

(Note: You must be a freshman in order to try for a place in Physics 11 but you do not have to be enrolled in Ph 10, as stated in the Caltech Catalog, in order to try out.)

Physics 11 to explore the "good stuff" in physics

by Dave Bacon

Revolution of thought is the essence of science. From Newton's revelation that the moon was falling to Einstein's idealistic view that physics should be the same in all inertial frames, science has been built upon creative insights which revolutionized the way in which we view the world. Unfortunately, the kind of creativity and insight which is such a fundamental part of science is not something one learns in the "standard" courses offered to freshman at Caltech. "Just great", you say, "I come to the greatest scientific institute in the world and not only am I a lowly frosh, but I'm not even going to learn one of the most important skills necessary for a successful research career: creativity." Don't despair frosh! There is hope!

Hope comes in the form of a very "nonstandard" and unique class called Physics 11. Physics 11 was created with the

express purpose of teaching a few select freshman the forgotten skills necessary to have a creative and successful career in research. In short, Physics 11 seeks to give freshman a glimpse at the "good stuff" in physics—the thrill of doing independent research in physics.

Starting second term, each Physics 11 class is first presented with small problems which test the students' resourcefulness and creativity. During weekly informal lectures the students in Physics 11 spend time exploring these small problems among themselves and with the Physics 11 guru, Professor Tombrello. After the students have mastered these small problems, they are finally given a full fledged independent research problem. Then, during the course of the summer, the students receive a stipend to try to hammer out the answer to their research projects.

One of the best things about Physics 11 is that the research projects assigned to the

students are not boring, rote work which some professor is too lazy to do, but are instead actual problems that physicists at the forefront of research are pursuing. Past Physics 11's have worked a variety of different problems taken from almost every branch of physics. From examining the effect of holes in superconductors to trying to understand the self-organizing motion of sand dunes across the desert, past Physics 11 classes have had the chance to tackle problems that many PhD holding physicists would be happy to solve. And above all, Physics 11 keeps reminding the student that physics is supposed to be exciting and interesting, so that one never becomes bored with what one is doing because the projects are just too exciting.

So how do you get into this amazing class? Well, you will have to compete in a time honored Physics 11 tradition—the hurdle. The Physics 11 hurdle is a small "unusual" problem from physics which is designed to test creative ability. It is not a typical homework problem and solutions to the problem (if they exist!) often require days of thought. See this week's Tech for a copy of the first hurdle with complete instructions on how to submit your hurdle. Physics 11 is open only to freshman, but it is not necessary that you be a physics major in order to compete for a space in the class. Once you have completed the first hurdle, a second hurdle will be issued in the same manner as the first. You do not have to do the first hurdle to do the second hurdle, though it is strongly encouraged that you do both hurdles. Finally, based on the results of the hurdles, five to eight freshman will be allowed to enroll in Physics 11.

If you have any questions about Physics 11, feel free to contact Professor Tombrello (x4581) or the TA of the class Dave Bacon (x1691, Ruddock 240).



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Comedian Mark Russell to Entertain at Tech Today

by Caltech Public Events

Comedian Mark Russell presents "The Laughter and Song of Politics" on Friday, October 13, at 8 p.m. in Caltech's Beckman Auditorium.

Russell finds humor in the latest-breaking news, especially the incongruities in official Washington. With his star studded grand piano, he pokes fun at conservatives and liberals alike.

Born in Buffalo, New York, Russell served in the Marines and had a couple of weeks of college before starting out as a piano player in the Carroll Arms Hotel Bar on Capitol Hill. There he made up songs about his customers, many of whom were politicians.

He went on to become the resident comedian at Washington's Shoreham Hotel from 1959 to 1979. Currently, he can be seen on PBS in "The Mark Russell Comedy Specials."

Tickets to Mark Russell are priced at \$35.00, \$32.00, and \$29.00. Caltech stu-

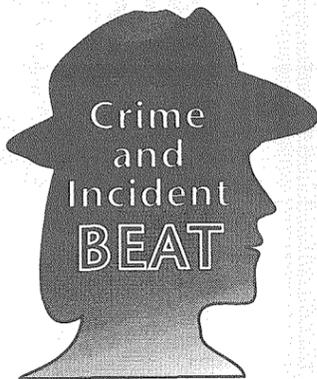


Mark Russell

dents (with I.D.) can purchase half-price tickets in advance and \$8.00 for Rush Tickets beginning on Friday, October 13 (subject to availability). Tickets can be purchased at the

Caltech Ticket Office, located just north of the Beckman Auditorium parking lot. Call campus extension 4652 for information. Individuals with a disability should call Deborah White on extension 4688 (Voice) or extension 3700 (TDD)

Crime And Incident Beat



September 30, 1995

Missing Property

Security responded to a report concerning a package found in the front yard of the Catalina complex. The package had been damaged and opened. Security took the package to the address indicated. The owner stated that items were missing from the package.

October 1, 1995

Noise Complaint

At approximately 1:40 a.m., security responded to a complaint of loud music in the area of Olive Walk. The noise was from a party. The party was breaking up and the noise had subsided.

October 2, 1995

Smell of Smoke

At approximately 9:40 p.m., security responded to a report of a burning odor in the Kerchoff lab

room 12. Upon arrival, security discovered smoke emitting from the rear of a machine plug into an outlet. The machine was unplugged by the service department and warning signs were posted on the machine.

October 3, 1995

Theft

Red Murray bike, valued at \$50

was taken from the Villa apartment complex. Victim chained and locked bike at approximately 12:00 pm. Upon returning at 1:00 pm., discovered the bike missing.

Theft

Blue Mountain Bike, valued at \$5.00 (that's right) was stolen from the bike racks near Ricketts house. Suspect Loser.

CHAMBER SINGERS CONCERT

Chamber Singers presents Variety

Once again, Caltech's own Chamber Singers is having a concert. This term the program is eclectic, so there should be something for everyone.

There will be madrigals, ballads, barber-shop quartets, Gilbert and Sullivan songs, music from around the world, and a piece by the modern German composer, Distler.

This free concert will be at 8:00 p.m. in Dabney Hall on June 8th, and a reception will follow. Come and enjoy!

CHEAP.

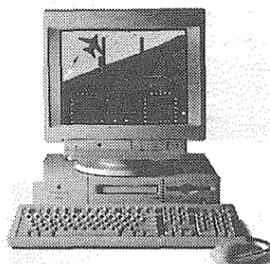
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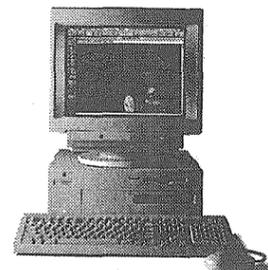
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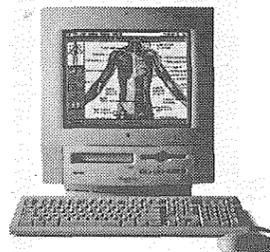
Like, duh.



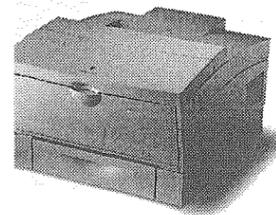
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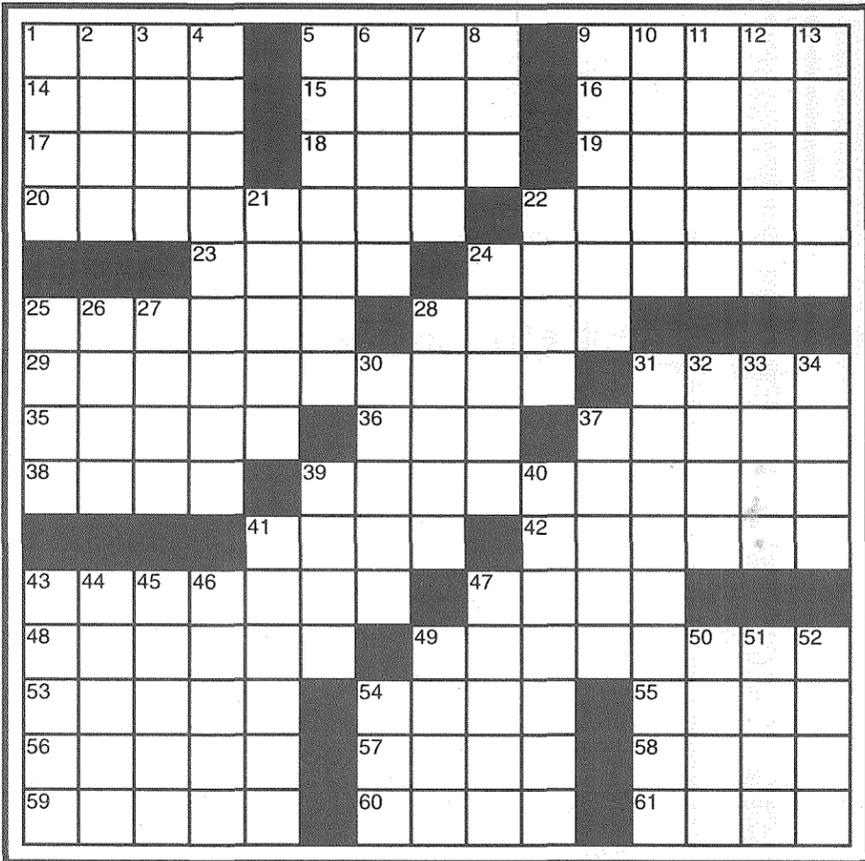
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CROSSWORD PUZZLE

by Wei-Hwa Huang



- 35. Slinks
 - 36. Stashed
 - 37. Phi ___ Beta
 - 38. Had 39-Across
 - 39. Race
 - 41. Decide not to bid
 - 42. Votes in
 - 43. Reddish
 - 47. Requirement
 - 48. Wishes
 - 49. What wax gives
 - 53. Littlest
 - 54. Gift-giver?
 - 55. The "Sacred Mother," e.g.
 - 56. Glue guy
 - 57. Swing wide
 - 58. Search
 - 59. Same as 20-across
 - 60. Old does
 - 61. 29-across' Sunday chore
- 11. A diameter has two
 - 12. Happening
 - 13. Grass
 - 21. Charlie's fliers?
 - 22. Horn honk
 - 24. Ex-apartment
 - 25. Went 70, e.g.
 - 26. What one does at 61-across
 - 27. Got up
 - 28. Miles' nickname
 - 30. That stuff
 - 31. A third degree
 - 32. Roots, e.g.
 - 33. Protect against fall
 - 34. Without
 - 37. Cabbages
 - 39. Shampoo and Boris, e.g.
 - 40. Copy
 - 41. Trifling
 - 43. Irks
 - 44. Ron the keeper
 - 45. Sordid
 - 46. Canvas place
 - 47. Wise men
 - 49. "Taps," e.g.
 - 50. Notion
 - 51. Michael and Davidson, e.g.
 - 52. Asian caribou
 - 54. Remainder operator

ACROSS

- 1. Time-persistent artist?
- 5. Porgy's pal
- 9. "Green" place to be?
- 14. Terrible man
- 15. Montreal player
- 16. Close or Burma
- 17. Light seeker
- 18. Lancelot and Gawain, e.g.
- 19. Sloshed through
- 20. With cunning
- 22. Problem sets, e.g.
- 23. Wait around
- 24. Stringy explosive
- 25. Pixie or pixels?
- 28. Hammer or sickle
- 29. Wei-Hwa's grandmother, e.g.
- 31. Disgusting pool?

DOWN

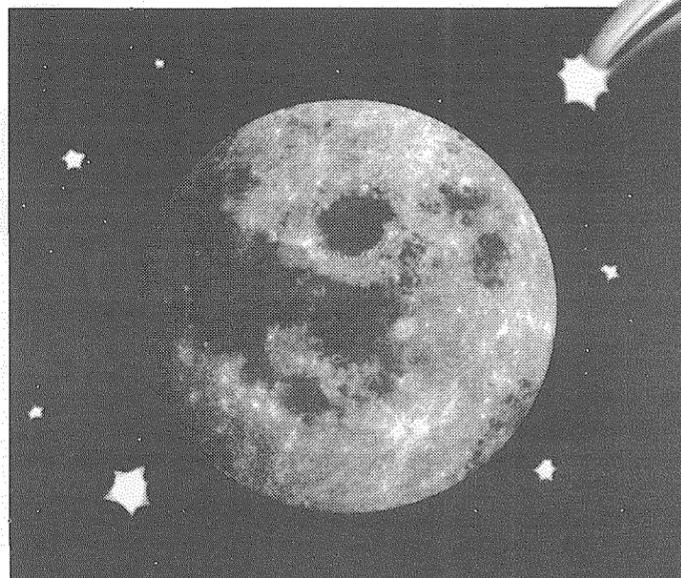
- 1. Turns down the light
- 2. Some lady salesmen, e.g.
- 3. Tardy
- 4. Taken
- 5. Also
- 6. Ostracize
- 7. Jack, e.g.
- 8. Plea for help
- 9. Like newly poured cream?
- 10. Beet with edible stalk

Solution will be published in next week's Tech

THE PERKS AND BENIES



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Ours.

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Y NEWS

by Donna Ebenstein

Next week is Diversity Week, and there are special events every day!

Monday

Danza Oceoloti — Dance Group at 12 noon in Winnett Quad

Tuesday

Environmental Racism Panel in Dabney Hall from 7-9 p.m. (see flyers for more details)

Wednesday

Mae Jemison, first African American female astronaut, is speaking at 8 p.m. at Ramo Auditorium

Thursday

Family Night (see Caltech Y Activities Calendar for more information)

Friday

Annie Rapids — noon concert in Winnett Quad

In addition, on Saturday, October 21 is a Union Station Volunteer trip — sign up at the Y. And on Fridays at 2 p.m. are Mountain Biking Trips.

We hope to see you at the Diversity Week events. Thanks for your support!

For more information on these or other Y events, call x6163 and ask for Chris.

It's Mae in October!

by Sharyn Slavin

The Multicultural Task Force of the California Institute of Technology is honored to present Dr. Mae C. Jemison as the distinguished speaker to kick-off the Kaleidoscope '95 programs. She will discuss issues of diversity and career opportunities for women and minorities in science.

Dr. Jemison's talk will be held at 8 p.m. in Ramo Auditorium with a reception immediately following in Dabney Lounge. This event is open to the entire community at no charge. Dr. Jemison's talk is part of a series of events on diversity co-sponsored by the Multicultural Task Force, The Women's Center, Caltech Precollege Science Initiative, the Society of Women Engineers, and the Los Angeles Urban League.

Dr. Jemison blasted into orbit aboard the space shuttle Endeavour, September 12, 1992, the first woman of color to go into space. This historic event was only another in a series of accomplishments for this dynamic African-American woman. She was Science Mission Specialist (a NASA first) on the STS-47 Spacelab J Flight, a U.S./Japan joint mission. She conducted experiments in life sciences, material sciences, and was co-investigator for the Bone Cell Research experiment. Dr. Jemison resigned from NASA in March 1993.

Chemical engineer, scientist, physician, teacher and astronaut, she has a wide range of experience in technology, engineering, and medical research. In addition to her extensive back-

ground in science, Dr. Jemison is well-versed in African and African-American studies and is trained in dance and choreography.

At sixteen, Dr. Jemison entered Stanford University on scholarship where she graduated with a Bachelor of Science degree in Chemical Engineering, and fulfilled the requirements for an A.B. in African and Afro-American studies. She attended Cornell Medical College where she earned her Doctorate in Medicine in 1981.

In medical school, her interest and knowledge of Third World countries evolved into a commitment to effectively contribute. She traveled to Cuba, rural Kenya, and spent a medical clerkship in Thailand at a Cambodian Refugee Camp. She completed her internship at Los Angeles County/USC Medical Center in 1982.

Co-sponsored by The Multicultural Task Force, The Caltech Women's Center, The Caltech Y, The Vice President for Student Affairs Office, and The Society of Women Engineers. Partial funding for the Jemison visit is provided by The James Irvine Foundation.

The Multicultural Task Force wishes to thank the following groups for their support: The Caltech Precollege Science Initiative, The JPL Advisory Council for Women, The JPL Educational Affairs Office and The Los Angeles Urban League. For more information call the Caltech Y and ask for Athena Castro or Diana Munoz (818) 395-6163.

OPIATE OF THE MASSES: NFL Picks

by Joseph Trela

IN WHICH THE ABYSS OPENS UP TO REVEAL A QUITE UGLY TONGUE

Welcome to Opiate of the Masses, your one stop for even more distraction from this fruited land, this earth, this Caltech. You think that your *physics homework* has questionable relevance to the real world? Well, have I got some marginally useful activities for you! This outlet gives me a chance to spout off about some of the events in the sports world for the benefit of those of you who don't follow the L.A. Times with any regularity. And *no*, this is not a waste of bandwidth! But mostly, you'll stay for the picks. God knows what will happen once the Super Bowl is over.

Recently, some people have been complaining that the new two-tier playoff system is ruining the purity of the game. They look back at the old days when there were two leagues, no divisions and the World Series was over by SURF Presentation Day. Well, let's take a look at what's going on now. In the NL, Cincinnati and Atlanta are the two best teams in that league. With the old system, it would have been Atlanta versus *Chicago* in the NLCS, and how much fun do you think that might have been? (Outside of Cook County, of course.) And in the AL, Seattle versus Cleveland is the matchup that would have occurred in the first place! Besides, do we really want (with Arizona and Tampa Bay coming up) fifteen teams in each league? Where do you think this is, England? Although, considering the practice of English soccer leagues to send the last-place team at one level of competition to the next lower level and vice versa with the champion of a lower level, it would be kind of fun to see the Twins end up in Triple-A while Tidewater or some place gets a brand new team. By the way, where exactly is Tidewater?

Anyway, here are some picks for this week's NFL games. Go nuts with 'em. Put up your tuition money. Just don't come crying to me.

ATLANTA vs. ST. LOUIS (Thursday Retro-Prognostication): Both teams forget that Colum-

bus Day was observed on Monday the 9th instead of the traditional 12th, so they both show up over an hour late. The extra rest doesn't help Georgia Frontierre's attitude any, though.

Pick: St. Louis
SEATTLE vs. BUFFALO: Seattle coach Tom Flores is faced with the frightening possibility of having his team distracted for the first time ever in October by Mariners post-season play.

Pick: Buffalo
NEW ENGLAND vs. KANSAS CITY: KC QB Steve Bono announces his intention to tour across the country after the season with Congressman Sonny Bono and singer Bono of U2 to promote the American cultural troika of football, the democratic process and politically oriented Irish bands. L.A. Mayor Richard Riordan and Dolores O'Riordan of the Cranberries refuse comment.

Pick: Kansas City
PHILADELPHIA vs. N.Y. GIANTS: Ricky Watters continues to raise controversy in Philadelphia after he declares cheese steak sandwiches to be "high in cholesterol and kinda yucky".

Pick: Giants
DETROIT vs. GREEN BAY: In a publicity stunt to raise money for charity, Barry Sanders undertakes a race with an actual lion from the Detroit Zoo. Trouble occurs when the lion's sedatives wear off early and he escapes; he is last seen heading for Pride Rock in the company of a baboon, a warthog and some sort of two-legged rat-thing.

Pick: Green Bay
MINNESOTA vs. TAMPA BAY: Buc's coach Sam Wyche sends an insulting e-mail message to everyone in the Cincinnati metro area about how his team is now 4-2. Pity he didn't use an anonymous sender.

Pick: Minnesota
SAN FRANCISCO vs. INDIANAPOLIS: After their embarrassing loss to Detroit three weeks ago, Niner's owner Eddie DeBartolo, Jr. uses his pull in nearby Silicon Valley to establish an embargo of computer chips to domestic car manufacturers. Result: next year's models include the Dodge Audion and the Ford Babbage, complete with its own on-board half-ton mechanical computer.

Pick: San Francisco
CHICAGO vs. JACKSONVILLE: Confused by the appearance of

yet another expansion team on their schedule, the Bears offense assumes it is still playing Carolina, marches out to the Jacksonville 1 at the start of the game and is called offsidese *masse*. These penalties and the "half the distance to the goal line" rule results in their first drive starting at their own 6000 angstrom line.

Pick: Jacksonville
MIAMI vs. NEW ORLEANS: New Orleans fans call for the formation of a "Dixie Division" with Atlanta, Jacksonville, Carolina, Tampa Bay and themselves without realizing that they'd still be tied for last place.

Pick: Miami
N.Y. JETS vs. CAROLINA: Boomer Essiason appears on Late Night with Conan O'Brien for the second time after suffering a concussion. With fire in his eyes, he announces that he is the Second Coming of Flash Gordon and is in contact with the Short Gray Aliens of Zeta Reticulii. Conan laughs and nods.

Pick: Carolina
WASHINGTON vs. ARIZONA: In a surprise announcement, President Clinton makes Heath Shuler the United States Special Ambassador to Equatorial Guinea, valid until the Super Bowl or if Gus Frerotte gets hurt, whichever comes first.

Pick: Washington
DALLAS vs. SAN DIEGO: Cowboys owner Jerry Jones announces a \$20 million deal with Tupperware to be their exclusive provider of helmets. He then explains that the new "TupperHelmets" would prove more resilient than ordinary helmets and would have ample storage space for snacks for the Dallas offensive line.

Pick: Dallas
OAKLAND vs. DENVER (Monday) Running back Harvey Williams, who both ran and passed for touchdowns last week, announces he has signed a two-year off season contract as a middle reliever for the San Francisco Giants.

Pick: Oakland
My record: 0-0, upon a darkling plain.

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Baseball League Championship Series Begins

by Mason A. Porter

Major League Baseball's first League Championship Series (LCS) since 1993 began last Tuesday with the National League (NL) Atlanta Braves playing the Cincinnati Reds at Riverfront Stadium in Cincinnati, and the American League (AL) Cleveland Indians facing the upstart Seattle Mariners and the Kingdome in Seattle. The LCS can last a maximum of seven games, as the first team to win four games goes on to the World Series.

Unlike previous years, the LCS is now the second round of playoffs. There were four Division Series last week. The Division Series, played for the first time this year because of the player's strike that marred both the 1994 season (the first season without a postseason since 1904) and the 1995 season (there were only 144 games in the regular season), is a best-of-five contest.

The Braves played the Wild Card Colorado Rockies of the National League West, beating them in four games. The Rockies, led by sluggers Dante Bichette, Larry Walker, and Andres Galarraga were simply overmatched. Bichette is considered an Most Valuable Player (MVP) candidate, hitting .340, with 40 home runs (HR) and over 125 runs batted in (RBI). His numbers, however, were greatly inflated by playing in Denver. Historically, Colorado has struggled mightily against the Braves. Furthermore, they have trouble in general beating anybody when they do not play their games in the thin air of Coor's Field, their home ballpark.

The other NL Division Series had the Reds facing the Los

Angeles Dodgers. The Reds swept the Dodgers, the biggest underachievers in baseball this season. Los Angeles possesses more individual talent than just about any major league team this side of Cleveland, but they were a collection of individuals lacking the synergistic effect of comraderie. They had five All-Stars, two MVP candidates in Eric Karros and Mike Piazza, and outfielder Raul Mondesi, voted by NL managers the second most exciting player in the National League. They were led in the pitching department by future Rookie-of-the-Year (ROY) winner Hideo ("Tornado") Nomo, Ramon Martinez, closer Todd Worrel, and Ismael ("Rocket") Valdes. Unfortunately, their defense was atrocious as usual. Manager Tommy Lasorda, who will probably make the Hall-of-Fame for his managerial prowess, was hotly criticized this season, but will be returning to manage the Dodgers for the 20th consecutive season next year.

The Braves, however, are an excellent team and not just a collection of excellent individuals. With the likes of superstar Fred ("The Crime Dog") McGriff, rookie third baseman Chipper Jones, Marquis Grissom and a pitching staff led by MVP candidate and three time Cy Young Award winner Greg Maddux, former 20 game winner Tom Glavine, John Smoltz, and younger closer Mark Wohlers, the Braves are a formidable obstacle for Cincinnati. Maddux, in fact, became the first pitcher to win the Cy Young Award three years in a row last season. This year, he'll become the first to win four in a row. Another of his numerous records was the larg-

est differential in Major League history between mean earned run average (ERA) and league leading ERA, set last season. He challenged his own record in that department this year. Another Maddux record is mosdt consecutive road wins; it is currently at 18 and is still in progress. Maddux is clearly on the way to the Hall-of-Fame. He was mortal in the playoffs, but he is the one pitcher in baseball whom one can say provides an almost automatic win for his team when he is pitching. The Reds, though they have excellent players such as former Brave Ron Gant, Reggie Sanders, Pete Schourek, and John Smiley, play in comparison the the Braves. After winning the first game 2 to 1 in 11 innings, he Braves will win the series in five games.

In the American League, the Central Division Indians swept the Eastern Division Boston Red Sox in three games. MVP candidate Mo Vaughn and Jose Canseco were both held hitless, paralyzing the Bosox. Though the Indians were the best offensive team in the majors this year, even they did not hit well during the series. The Red Sox pitching, led by Roger Clemens and Tim Wakefield, did well but the offense choked. The Indians are, by far, the best team in baseball. They won one hundred games and only lost 44 games, producing one of the best winning percentages in "modern" (post 1900) major league history. Their offense is led by MVP candidates Albert ("Don't call me Joey.") Belle, who hit 50 home runs this year, sophomore Manny Ramirez, and Carlos Baerga, Kenny Lofton, Jim Thome, and future Hall-of-

Famer Eddie Murray, member of the 3000 hit club. Future Hall-of-Famer Dave Winfield, another member of the 3000 hit club, was on the Indians this year as well but contributed very little, only driving in four runs this year. It's time for him to retire.

The Western Division Mariners played the Wild Card Yankees of the AL East, defeating them in five games in one of the most exciting postseason series in many years. The Yankees won the first two games, despite Ken Griffey Jr.'s 3 home runs during that span. The Mariners then became the fourth team in major league history to come back from a two game playoff deficit to win the series. MVP candidate Edgar Martinez, who entered the series as perhaps the best "unknown" player in baseball, drove in a playoff record 7 runs in game four. The Yankees had gotten a quick 5 run lead, but Martinez and the Mariners overcame it. In game five, the Yankees led 2 nothing and 4 to 2. The Mariners tied it, and the game went into the extra innings. The Yankees scored a run in the top of the tenth inning, and many Mariner fans thought their season was about to end. However, Seattle scored two runs in the bottom of the tenth to win the game and the series. That game saw Manager Buck Showalter of the Yankees leave David Cone on the mound too longer, give no-confidence votes to closer John Wetteland and set-up man Steve Howe by bypassing them in favor of Jack McDowell when he replaced Cone, and Seattle pitcher and probable Cy Young Award winner Randy ("Big Unit") Johnson pitching a couple of innings in

relief. Largely because of Johnson's appearance, the Mariners started rookie pitcher Bob Wolcott in the first game against Cleveland. Surprisingly, the Mariners won the game 3 to 2. Nevertheless, I still think the Indians will win the American League Championship Series (ALCS) in 6 games.

To even reach the Division Series, the Mariners had to surpass seemingly insurmountable odds. They were 13 games behind the first place California Angels in August, and at that time California had been playing excellent baseball. However, the Angels then proceeded to experience the third worst choke in baseball history. The Mariners caught the Angels (after having surpassed the Texas Rangers, who had once been 11.5 games behind the Angels), and built up a two game lead. The Angels, however, won their last five games to tie the Mariners on the last day of the season, forcing a one game playoff. Mark Langston of the Angels faced Randy Johnson. Ironically, they were traded for each other in 1989. The Mariners had traded Langston to the contending Montreal Expos for Randy Johnson, Gene Harris, and Brian Holman. After the 1989 season, Langston signed with the Angels as a free agent.

After the ALCS and NLCS, the United States will experience its first World Series since 1993, when the Toronto Blue Jays defeated the Braves to become the world champions of baseball for the second consecutive year. Thus, despite all of baseball's labor troubles and lingering fan bitterness, this season's baseball postseason looks like it will continue as one of the best in recent years.

OCT/NOV SPORTS CALENDAR

MEN'S SOCCER

Saturday 10/14
11:00am
Home vs. Redlands
Monday 10/16
4:00pm
Home vs. Pacific Christian
Saturday 10/21
SCIAC Soccer Tournament
Tuesday 10/24
SCIAC Soccer Tournament
Saturday 10/28
SCIAC Soccer Tournament
Saturday 11/4
11:00am
Home vs. Alumni

VOLLEYBALL

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

CROSS COUNTRY

Saturday 10/14
9:30am
SCIAC Multi-dual Meet
La Mirada Park
Saturday 10/28
SCIAC Championships
Prado Park, Chino
Saturday 11/11
10:00am
NCAA III Regionals

FENCING

Saturday 10/14
8:00am
Caltech at UC San Diego
Saturday 10/21
8:00am
Caltech at CSU Long Beach
Saturday 11/4
10:00am
Caltech at CSU Long Beach
Saturday 11/18
11:00am
Caltech at UC Santa Barbara

WATER POLO

Saturday 10/14
11:00am
Caltech at Cal.
Maritime
Wednesday 10/18
4:30pm
Home vs. Villanova
Wednesday 10/25
4:00pm
Home vs. Whittier
Saturday 10/28
11:00am
Caltech at Redlands
Wednesday 11/8
4:00pm
Home vs. Claremont-Mudd

SPORTS

Harriers Rock Courses

by Brian Barris

Divide and Conquer was the philosophy of the Caltech Men's and Women's Cross Country Teams this past weekend. The bulk of the teams traveled to San Diego for a preview of the Regional course, while a few runners were unable to make the trip and raced at La Mirada Park.

Among the men who competed in the Biola Invitational at La Mirada, Chris Cary shined the brightest, finishing in 31:00. The others who ran the 8K course were Tom "Pepe" Collier, who made an incredible leap to 33:15, probably enabling him to finish safely ahead of the crazy old guy in future meets, Ben Siron, and Richi Gilmore. James Dooley decided to run a 9K course instead, and his time of 40:01 was undoubtedly the fastest of anyone who ran that distance. The women's contingent at Biola was made up entirely of frosh, and almost entirely of Amys. In order, the finishers were Aimee Pierce, Amy Dullard, Amy Chang-Chien, and Heather Dean.

The rest of the team journeyed to San Diego for the Triton Invitational. After departing early Friday afternoon and jogging over much of the course and much of the UCSD campus that was not on the course Friday evening, the team was ready for the Saturday morning race. The only slip-up in the plans was the choice of restaurants for Friday night, but that will undoubtedly be corrected before regionals, and was not enough to adversely affect the determined Caltech runners on this day. The course was a very nice, fast course, mostly run on shaded sandy trails with some grass and asphalt at the beginning and the end. However, the men's course had some brutal uphill to give it a definite overall uphill grade.

The women's team was led once again by Cailin Henderson, one of the favorites to win the Sullivan Award this year. Cailin finished in second place with a time of 19:34 for the 5000m course. The next finisher for Caltech was Janet Sun at 21:05, good for 21st place. Not far behind came Phyllis Chen, continuing an outstanding frosh season with a 21:59. Rounding out the finishers for the women were Gretchen Larson, Karen Bletzer, Keri Ryan, and hometown favorite Keely Walker, all putting in outstanding performances. As a team, the women placed fourth

out of six teams, yet one of the teams ahead of them, UC-Irvine, is a Division I school.

Shortly after the women's race concluded, the men gathered in the shadow of RIMAC in its full glory for the start of their 8K race. There were a plethora of starting boxes along the sadly crooked starting line. Yet the men overcame this disgrace and ran some outstanding times.

The first mile was blazingly fast, and the rest of the course contained the aforementioned brutal hills. Dan Klyman persevered through the difficulties and finished in fifth place, needing only 26:50 to complete the course. A few minutes later, the dependable Caltech main pack crossed the finish line one by one. There was Brian Barris at 28:46, Conrad "Goose" Ziesler at

29:01, Tom Meyer with 29:03, Dave Richard at 29:43, and Brad "Brad" Nakatani with 29:55. An amazing six Beaver runners came in under thirty minutes. Further back was Harmesh Lad, and Tom Dmukauskas had to drop out due to illness. The men placed fifth out of six, but again, one of the teams was a Division I team.

The performances of all the runners at both meets keeps up the optimism that has surrounded the team all year. The only remaining meets are crucial

in the teams' attempts to place well in SCIAC and send runners to Nationals. Next week is the SCIAC Multi-Dual Meet at La Mirada Park, the first meet that will help determine conference placing. Two weeks after that is the Conference Championships at Prado Park in Chino, and two weeks after that is the Regional Meet in San Diego, the culmination of months of training and hard work. Those three meets are your only chances left to see these amazing athletes in action.

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Announcements

◆ denotes a new announcement.

Class Additions/ Changes

It's add day! If you don't sign up for any of the three new **H&SS** courses being offered now, you may never be able to join at all! While Ec 161 has been moved to third term, Professor Caroline Fohlin will be teaching Ec 162, Monetary Theory this fall. An organizational meeting will be held on Tuesday at 1:00 pm. Professor Martin Ridge is offering H 146, American Biography Tuesday evenings at 7:30 pm. H 161, Culture and Society in the English Speaking World, 1660-1830, will be taught Thursday evenings at 7:30 by Professor John Styles, a visiting professor of history from Victoria and Albert Museum in London. This course will consider the cultural dimension of the rags-to-riches transformation in English fortunes between 1660, when England was a minor European country, to 1830, when it had become the dominant European nation and the center of the world economy. A full schedule of courses to be taught in the Humanities & Social Sciences Department in the 1995-1996 year are available in 228 Baxter.

Events

*The **Caltech Ice Hockey Team** will be having its first game this Sunday, October 15th at 11:30 am against Santa Clara University. The game will be held at the Pasadena Ice Skating Center, 310 E. Green Street (across from the Plaza Pasadena). Admission will be free.

*The Volunteer/Community Service Program is going to be holding an **Adopt-a-Meal Program** every third Saturday of the month at the Union Station beginning October 21st. All students, staff, and faculty are welcome: Sign up in the Caltech Y if you are interested. For more information, please contact Prista (prista@uges.caltech.edu) or Athena at extension 6163.

*Ken Armstrong will host an Armchair Adventure travel film entitled "**Darwin's Patagonia**" on Friday, October 27th, in the Beckman Auditorium at 8 pm. Admission starts at \$7.00.

The Allstate Foundation, Catholic Big Brothers and Big Sisters **America Against Crime 5K Race** is to be held tomorrow, Saturday, October 14th at 8 am. Benefiting many local one-on-one mentoring organizations, the run will merry-go-around Griffith Park. The run is also still in need of volunteers to help set-up and run refreshment stands, as well to participate in many other run support jobs. In order to register to run or volunteer, call (213) 251-9800.

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

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

Notices

*The **Caltech Swedish Club** will have an informal meeting on Sunday, October 22nd at 3 pm at 204 S. Holliston, Apt. 11, in Pasadena (one block north of the Caltech campus). The meeting is open to anybody who likes to speak Swedish or is interested in Scandinavian culture. We will eat Swedish cinnamon buns (kanelbullar), drink Swedish coffee and chat in Swedish and English. For more information contact Lena Peterson via e-mail: lena@pcmp.caltech.edu or phone x6994 (day) or 683-9102 (night).

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

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

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

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

From the Counseling Center

Are you looking for help in dealing with

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

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

Looking for a safe and supportive place to discuss issues such as coming out, being out, dealing with family, coping with a homophobic culture, and being GLB at Caltech? Want somewhere just to make new friends? We invite you to the **Gay, Lesbian, & Bisexual Support Group** every first and third Tuesdays of every month from 7:30 to 10:00 pm 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 discuss a particular topic relevant to the group that week and then move on to announcements and general discussion. Refreshments will be served. If you would like more information, please call 395-8331.

The Women's Center and the Counseling Center are co-sponsoring a confidential **Assertion Training Group** for both graduate and undergraduate women. The group will focus on developing assertion skills to be used in professional settings. Goals of the group will include: developing a conceptual understanding of aggressive, non-assertive, and assertive behavior; practicing specific behavioral skills (eye contact, voice projection, body language); strengthening cognitive skills including gaining an understanding of rights and appropriate behavior; and problem solving specific difficult situations. Jan Aura, Ph.D. and an intern from the Counseling Center will co-facilitate the

group which will be held for the next six weeks at the Women's Center on Mondays from 12:00-1:00 pm. If you would like more information or you would like to sign up for the group, please contact the Counseling Center at (818) 395-8331.

Seminars

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

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

Competitions

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

Fellowships and Scholarships

From the Deans Office:

Applications are available in the Deans' Office, 102 Parsons-Gates for the **Churchill Scholarship Program**. The one-year graduate study award is available to graduating seniors and graduate students. It includes full tuition, \$6,000 living allowance for a full-year program, and a \$500 travel allowance. At current exchange rates, the value of a Churchill Scholarship is approximately \$20,000. Churchill College is a predominantly engineering and science-oriented college at Cambridge University. Applicants must be U.S. citizens between the ages of 19 and 26. The deadline to submit a complete application to the Deans' Office is **November 13th, 1995**. Caltech can nominate two candidates to the Churchill Foundation.

The **Harry S. Truman Scholarship Foundation** awards scholarships to juniors who have outstanding leadership potential and intend to pursue careers in public service. If interested, please stop by the Deans' Office, 102 Parsons-Gates for more information. The deadline for receipt of nominations for this scholarship is **December 1st, 1995**.

From the Financial Aid Office:

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

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

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

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

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

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



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