



Baseball  
exhibition  
games have  
begun!

We're out of here!

# The California **TECH**

"Life is like The  
Tech, except that life  
only controls you  
part of the time."

Volume XCVIII, Number 20

Pasadena, California

Friday, March 8, 1996

## Introducing the Caltech Science Education Club...

by Alicia Alonzo  
and Jane Sanders

Who would have guessed that there would be so much interest in science education at Caltech? Believe it or not, there are over 50 members of the Caltech Science Education Club, including undergraduates aiming for a career in teaching, graduate students who have taught abroad before Caltech, staff members pursuing education degrees, faculty members involved in science education reform, retired JPL and Caltech alumni, local observatory astronomers, and an HMO physician.

On Thursday, February 29th, the club convened for the third time. The topic of the meeting was "Practice, Politics, and Ethics Concerning the Use of Animals in Science Education". Animal rights activists have had an impact on the use of animals in education, and in response, groups have formed supporting the educational value of animal use. Both groups distribute literature to be used in classrooms to persuade students of their respective positions. A discussion of these issues had been proposed by several members of the science education club.

Following a pizza supper, a Caltech postdoc gave a brief synopsis of literature from both sides of this issue, pointing out some valuable content of each as well as commenting on the differences between propaganda and education. The literature and activities in the materials for stu-



PHOTO BY GAIL STOWERS

*Members of the Science Education Club discuss using animals in education*

dents were age-appropriate, ranging from coloring books for young children to alternative high school science fair projects. These materials were available for members to read and generated an active discussion.

A highlight of the meeting was a short informal talk by Ginny Kajiwara, a fifth grade teacher, and Lynn Maloney, a first-second grade teacher, both from Pasadena area schools. The teachers in Pasadena use animals in their classrooms each year as part of the hands-on inquiry based science curriculum, called SEED (Science for Early Educational Development), which was developed in partnership with Caltech. They spoke about the valuable, detailed observational skills the students gain from their experience with animals

and the genuine care and concern the students form for the animals. They reported that the unit the children remember the most fondly from each year's science curriculum is the one studying animals. The teachers answered questions and entered into the discussion with members. Anecdotes and samples of student work, along with the warmth and enthusiasm of Ms. Kajiwara and Maloney were inspiring and infectious.

The final speaker was Janet Baer, the Caltech veterinarian. She told the group about the Animal Welfare Act of 1966, which was passed in response to concerns about the possible mis-

PLEASE SEE CLUB ON P. 3

## Science Program Expands Into Six More California Districts

by Caltech Public Events

PASADENA—A science education program for elementary-school students will expand into six more California school districts this year: Bakersfield, Baldwin Park, Hacienda-La Puente, Lynwood, Stockton, and Tulare. The selection of these six districts was announced recently by the Pasadena Center for Improving Elementary Science Education.

The Pasadena center, which aims to bring a hands-on, inquiry-based style of science education to elementary-school classrooms, is a collaborative effort of the Pasadena Unified School District (PUSD) and the Caltech Precollege Science Initiative (CAPSI) at the California Institute of Technology. The PUSD-CAPSI collaboration, which dates back to 1985, has developed an elementary science program that has proved successful not only in PUSD, but also in the Conejo Valley, California, and Maui, Hawaii, school districts.

In the program, students are motivated by their own curiosity and learn from hands-on experiments that investigate a variety of phenomena. Teachers guide the young scientists' learning with careful questions, and the children keep notebooks of their work. A large component of the program involves professional

development for teachers-training them to become knowledgeable facilitators of their students' inquiry-based learning.

In 1994 PUSD and CAPSI received a five-year, \$6 million grant from the National Science Foundation (NSF) to bring their approach to learning science to 14 additional school districts within California. The NSF grant reflects the agency's emphasis on getting professional scientists involved in improving precollege science instruction. "We don't expect to change the way science is taught throughout the entire state, much less the whole country," said Jim Bower, an associate professor of biology at Caltech, who codirects CAPSI with Professor of Physics Jerry Pine. "But we have designed a good model for teaching elementary-school science, and we're happy to be able to share it with other school districts throughout the state. Eventually we hope these methods will be adopted by more districts in California, and perhaps even spread to other parts of the country."

Last year the Pasadena center started pilot programs in the Desert Sands, El Centro, and Lennox school districts. These three districts, and the six selected this year, were chosen from a pool of about 50 eligible districts, each of which has more

PLEASE SEE CAPSI ON P. 3

Signups for IHC secretary are up until 5pm March 13th. Interviews will be held early next term. Any questions? Please contact Laura Brady, [laura@ugcs](mailto:laura@ugcs), or Dave Bacon, [dabacon@cco](mailto:dabacon@cco).

The Caltech Ballroom Dance Club is continuing its salsa and waltz classes. Salsa is held Wednesdays from 7-8:30 p.m. in Winnett (1st floor), while Waltz is held Fridays from 7-8:30 p.m. in Dabney House Dining Room (NOT Dabney Hall). Both classes are introductory; no partners are needed. \$12 for 4 classes for Caltech/JPL people, and \$20 for others. Contact Ching Liu at [chingliu@ugcs.caltech.edu](mailto:chingliu@ugcs.caltech.edu) or 795-0660 for more info.

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FEBRUARY 29, 1996

# I.H.C. Minutes

Present: Chris Walker (Da), Chris Cary (Fl), Steve Bennet (Li), Josh Moats (Pa), Lon Christensen (Ru), Bill Penn (Bl), Jennifer Ohgi, Jennifer Holland, Tyson Grant, Dave Bacon (Me)

Meeting starts: Sometime after 11pm.

Today's theme: *Frosh are lame.*

• Everyone arrives safe and sound, Moats with his customary bottle and Lon minus his Grover.

• Jennifer Ohgi talks to the IHC about a party she is organizing third term. The party will host four or five bands and will be a joint Occidental/Tech party. The theme will be Kung Fu-ish ("Everybody was Kung Fu fighting..."). She asks for \$50 dollars from each house. Everyone stares at each other for a few minutes and then finally we decide that \$50 is reasonable and so agree that each house should contribute \$50 to the party.

• The Jennifers leave.

• Blacker has canceled its party because according to the Bill, "our frosh are lame." Seems as if Blacker frosh decided that their school work mattered more than the

party. Hey frosh, only a few more weeks of P/F! Flame frosh flame!

• We talk about when to appoint a new secretary. Signups are now up for IHC secretary and will be taken down Wednesday of finals week. Interviews to follow during the first few weeks of third term. SIGN UP FOR IHC SECRETARY! SIGN UP FOR IHC SECRETARY!

• Dave requests that each house appoint a member to a "social committee" that the ASCIT social chair Emily Ho is forming. This committee should help coordinate house social events and stuff like that and will be a great help to the houses. Cool.

• Steve apologizes for the dumbass who printed out a ton of color copies on the CCO computers. Once again, reiterating, Steve comments that "frosh are lame."

• Meeting ends sometime before 12pm.

Respectfully submitted,  
*(wait, that would imply the IHC has respect)*

*Dave Bacon*

IHC Chair / all-purpose-dishwasher

## The Outside World

by Myfanwy Callahan

JERUSALEM, ISRAEL—A young Palestinian man was arrested Sunday for recruiting three of the last four **suicide bombings**. The attacks, he said, were meant to ensure the defeat of the Israeli government in the coming elections. Four suicide bombings since Feb. 25 have killed 61 people in Jerusalem.

GROZNY, CHECHNYA—Hundreds of **rebels** rode to the capital of secessionist Chechnya in a captured freight train to support the city. Wednesday began the largest battle in Chechnya in over a year. Scores of Russian soldiers are wounded or killed.

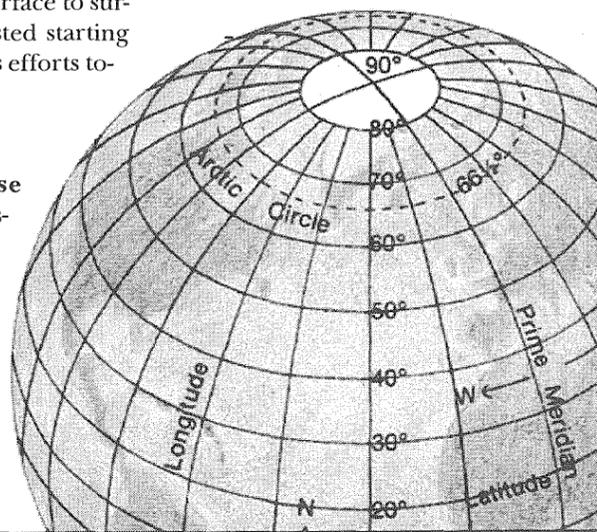
BEIJING, CHINA—Tensions rise after China announced it would conduct a week-long series of **missile tests** near two of Taiwan's major seaports. An official announced that surface to surface missiles would be tested starting on Friday to curb Taiwan's efforts towards independence.

BOGOTA, COLUMBIA—Jose **Santacruz** Londono, an escaped prisoner and major leader of drug trafficking in Columbia, was killed by police late Tuesday night. Londono was cited by the Clinton Administration last week as one reason Columbia was

not being endorsed by the United States in the war on drugs.

HADZICI, BOSNIA AND HERZEGOVINA—About a dozen men, thought to be Bosnian Croat police, tried to block the transfer of **Hadzici**, a Sarajevo suburb, to the Muslim-Croat federation. They withdrew after a threat of force by NATO.

UNITED NATIONS—The Cuban Foreign Minister, Roberto Robaina, spoke at the UN Wednesday to defend Cuba's decision to shoot down two civilian aircraft on Feb. 24. He cited numerous cases of trespassing airspace and intrusion by sea in the last two years, and the warnings they had received about Cuban American plans to broadcast propaganda.



CALTECH  
public events

## EXPECT THE UNEXPECTED



**Armchair Adventures**

**A British Summer**

NARRATED BY  
**JIM COLE**

FRI., MARCH 8, 1996 / 8 PM • BECKMAN AUDITORIUM  
Regular Prices: \$9.00 - 7.00

## PRESERVATION HALL JAZZ BAND

SAT., MARCH 9, 1996 / 8 PM • BECKMAN AUDITORIUM  
Regular Prices: \$28.00 - 25.00 - 22.00

Paco A. Lagerstrom Chamber Music Concerts

**HEIDE LI**, violin  
**TOM LLOYD**, cello  
**ERICK CO**, piano

SUNDAY, MARCH 10, 1996 / 3:30 PM • DABNEY LOUNGE  
FREE

Brahms • Fauré • Shostakovich

**CALTECH DISCOUNTS**

**CIT STUDENTS:**

Half price for British Summer  
\$5.00 for Preservation Hall Jazz Band

**CIT STAFF / FACULTY:**

**\$2.00 off for all events**

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

Call the Caltech Ticket Office at x4652

## Y NEWS

by Donna Ebenstein

**Roommate Game** on Sunday. There will also be movies before and after these events, as usual. If you are interested in participating in the Roommate Game, stop by the Y on Friday and let Chris know.

Good luck with finals and have a great vacation. Remember, the Caltech Y rents camping equipment and sells discount tickets to local theaters and theme parks. So if you are going to hang around the LA area for vacation, don't overlook these opportunities to get out and have fun! We hope to see you all (undergrads and grads!) at Decompression!

This weekend is **DECOMPRESSION!** So come by the Y for free food and entertainment starting at 7:30 p.m. on Saturday and Sunday. The current schedule of entertainment is **Senseless Death** (the comedy group) on Saturday night and **The**

## The Holy GRAIL

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<b>SIRS NOT APPEARING IN THIS FILM THIS WEEK</b> Shay Chinn Terence Moran	<b>BRING OUT YOUR DEAD</b> Sander Granat Lydia McKay
<b>SIRS NOT APPEARING IN THIS FILM EVER AGAIN</b> Mason Porter Stephen Van Hooser	<b>THE KNIGHTS WHO SAY "NEE"</b> Stephen Van Hooser Mason Porter
<b>SIRS NOW APPEARING IN THIS FILM</b> Samantha Gizerian Autumn Looijen	<b>MYFANWY CALLAHAN</b> Samson Timoner Jim Cheng
<b>SIR BEDEMERE</b> Shay Chinn	<b>YOUR MOTHER WAS A HAMSTER</b> Adam Villani Jim Pierce
<b>PATSY AND KING ARTHUR (WITH COCONUTS)</b> Autumn Looijen Samantha Gizerian	<b>THE TECHNOGEEKS</b>
<b>THE BLACK NIGHT</b> Terry Moran	<b>AND YOUR FATHER SMELT OF ELDERBERRIES</b> Laura Brady Grace Yang
<b>(I SHALL NEVER SURRENDER)</b> Angie Bealko	<b>ROGER THE SHRUBBER</b> Angie Bealko
<b>GALAHAD (THE PURE) AND ZOOT</b> Francisco Gutierrez Heidi Eldenburg	<b>GOD ("STOP GROVELING")</b> Hall Daily

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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 be refused.

The countdown has now reached zero! We're out of here! If you have any complaints, you know where not to send them, because the Tech is not our problem anymore! (But we do wish the editors all the luck in the world...really.) For the first time in a long time, no Tech Editors flamed during their term of office and we're damn proud of it!

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.

## MAKE EXTRA \$\$\$ NEXT TERM

Working for the TECH!!!

We need people in **advertising sales and distribution**

for the coming term. Description of positions are:  
**Advertising sales:** Contact businesses around the Pasadena area to solicit advertising. Wages: Commissions vary, up to 25% of sales. **Distribution:** Car needed. Pick up Techs from printer, distribute to UG houses Fri. morning, label Techs for mailing to on-campus offices, and drop off labelled Techs at mail office. If you are interested in either of these positions, please call

x6154,  
or email adv@tech.

# A Piece of Caltech History Meets a Gruesome Fate

by Joseph Trela

On Monday, March 4, a part of Caltech sports history was lost when several members of Page House physically destroyed the second Discobulobus trophy.

The wrecked trophy was not the current "eagle" model; it featured a poseable, gold-painted Gumby doll holding a discus in a heroic pose. Evidence from old yearbook pictures indicated that it was used as early as 1974. Sometime around 1983-84, however, it disappeared permanently (following a rash of temporary thefts) and had to be replaced. It was rediscovered Monday by junior Seth LaForge in a remote corner of Dabney "hyper-space" (the open spaces between the walls and ceilings in Dabney); presumably, whomever "borrowed" the trophy hid it there for safekeeping.

The trophy was revealed to Dabney House members during the announcements following dinner. At this point, a group of about 10 Dabney members independently decided to take the trophy over to Page House, which won the overall Discobulobus contest for the



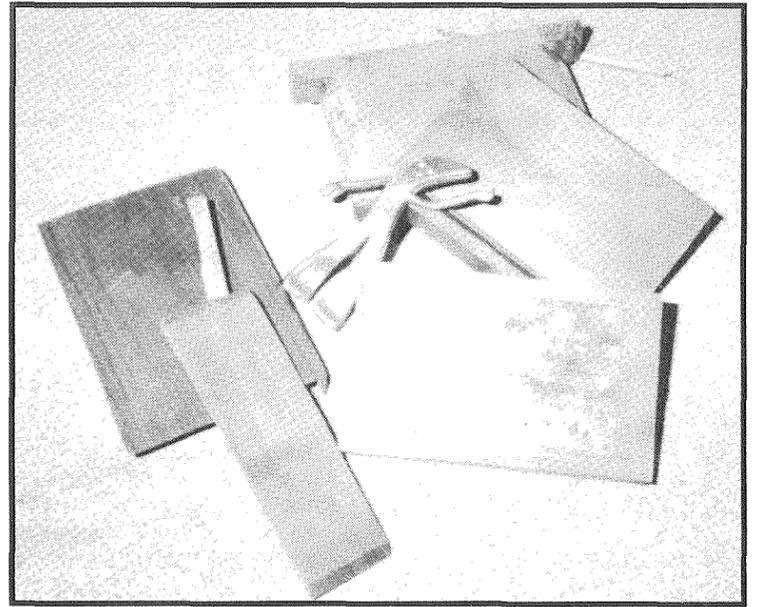
Mike Benedetti holds a battered Gumby

1981-82 academic year and hence was the last house with a placard on the trophy itself (Later research indicates, however, that they may not have been the last house to actually hold the trophy following a challenge). When recognized during the after-dinner announcements at Page House, one of the members held up the trophy, announced its re-discovery and requested that they contact the Dabney athletic manager to negotiate a return. The representative concluded by saying in a casual tone "We also feel a responsi-

bility to taunt you, so now we are taunting you."

About 10 seconds after the group left the room, about 5 or 6 Page House members spontaneously began to chase the Dabney members. One of them caught the member of Dabney carrying the trophy in the Fleming House courtyard with a flying tackle; at this point, accounts become confused. Apparently, one Page member may have tried to toss it to another but accidentally dropped and damaged it. There is no question, however, that towards the end some Dabney members were physically restrained by Page members while the trophy was deliberately smashed by throwing it into the ground.

According to accounts from members Page House present at the incident, it was not clear that the item was a Discobulobus trophy and hence possibly covered under IHC Resolution 1, Section 6. When asked about the incident, one member of Page House who was present at the dinner in question indicated that the Dabney members "knew the risks" in taunting Page and should have expected to be chased. He did say, however, that smashing the trophy



Only fragments of the discobobulous trophy remain...

was "verystupid," adding "What was the point in getting it back in pieces?" It should be made clear, however, that the events leading up to and including this incident were not necessarily participated in or approved of by the majority of members of Dabney or Page House or their respective elected officials.

Currently, the remains of the

trophy are distributed approximately 50-50 between Dabney and Page. As of press time, the incident will have been brought up in the IHC meeting at 11:00 PM Thursday. If anybody possesses more definitive historical information about the trophy, they are welcome to contact the California Tech Office in SAC 40 at x6153.

## Caltech Student Interns with Bureau of Indian Affairs

by James Honaker

The Beckman Internship allows interested individuals to explore some facet of government or politics for a summer. The interpretation of 'political' is quite broad, and allows students to search out and investigate any issue that appeals to the applicant. It can allow students to explore the political and economic underpinnings of the scientific field they are interested in, or it can be a great opportunity to contribute to a cause or group that you feel strongly about, without obligating years of your life to the Peace Corp and finding yourself stranded on some inhospitable island in the middle of the Pacific.

I worked for the Natural Resources Office of the Bureau of Indian Affairs (BIA), Southern California Office. There are more Indian reservations in California than any other state, although they are much smaller, and generally more reclusive, than the more popularly known sites in Colorado and Arizona. The Southern California Office works with twenty-nine reservations, (or depending on your counting, twenty-eight, since there is one with nobody living on it and its legal status is in question), each of which has its own sovereignty recognized by treaty with the Federal government. Legally, they are much like tiny independent states. All federal laws must be upheld, but any rights granted to the states are also granted to Indian reservations, and thus no California laws have any jurisdiction within the reservations. Reservation governments set their own laws and regulations, from speed limits to property rights to, of course, gambling laws.

The purpose of the BIA, like any government institution, is to solve problems of public goods, and also to provide economies of scale. The Bureau does not have any authority over the reservations it serves, but rather provides a variety

of services individual tribes could not provide for themselves, and tries to foster cooperation between tribal groups over matters of common interest.

Water is an important commodity in California, and a majority of my work focused in this area. Reservations, by a somewhat arcane law, are in the fortuitous position that they own the exclusive water rights to any water tables that travel under their land, even if the table is very broad and extends far beyond the reservation's territory. A large source of income comes from selling water to the surrounding communities, or exacting rents from communities that tap their water tables.

The biggest project I worked on was at the Santa Ysabel reservation evaluating the impact of a State water district project on the reservation's water table. It serves as a good example of the jobs the BIA fulfills and the services it offers to tribal governments. The State water board had built a large complex of wells across a fault from the Santa Ysabel reservation. Underground water flow is usually blocked by faults. The geologist in the department set about trying to determine where exactly the fault ran, and how it was constructed. Reviewing earlier trench work, he decided that the fault was probably two faults that met together close to the well site. A hydrologist then tried to determine how water might flow about the junction of these two faults, and how the tables on either side of the fault would be connected. The tribal government coordinated funds with a local tribal casino to dig exploratory wells along the perimeter of the fault to see if the water levels were affected. Until this data was available, and the hydrological examination complete, the Bureau called on the US attorney's office of the Department of the Interior to obtain an injunction against the State of California to postpone the

opening of the wells, and finally, members of the Public Relations Office rallied support from Californian farmers in the local basin who were afraid their water supplies might be depleted by the State's wells.

Like any government bureaucracy, the mission of the BIA is very broad, and it's resources very limited. The office I worked in was chronically under-manned, which meant they had plenty of tasks they had always wanted to do but never had time to get around to. I got to choose work I found interesting, and bounce around enough to get a strong impression of the organization of methodology of the Bureau. Projects I worked on included setting up a database of California wildlife and vegetation to ease and speed up Environmental Impact Statements required for land development, working with the Torres Martinez tribe to help them regain control of land that was being mismanaged by a sewage treatment company, inspecting logging sites with Bureau foresters, and working with a team negotiating contracts with a gold-mining corporation that was drilling exploratory shafts.

The summer was equal parts frustration and inspiration. The frustration comes from a bureaucratic structure that is very inflexible and engineered around goals that the Bureau no longer has. The approach is always very conservative, and with increasingly diminishing resources the BIA's policy tastes like a punch from a party that ran out of ingredients and keeps adding water to refill the bowl. However, the summer was fascinating and almost gave me a respect for geologists. The Beckman Internship is an excellent opportunity for anyone who is thinking of applying their work to political economic causes, or is interested in escaping the ivory tower for a jaunt among the mortals. If you are interested contact the Dean's Office, 102 Parsons-Gates, for further information.

## CAPSI: Science Education Project Takes Off

CONTINUED FROM P. 1

than 5,000 elementary students, a minority student enrollment of at least 50 percent, and is prepared to implement and support the program with help from the center in Pasadena.

Reaction from personnel at the six districts selected has been uniformly positive. Sue Ann Hillman, curriculum specialist for the Tulare Unified School District, said, "Tulare's selection in the elementary science grant process spread quickly from the fax machine to the eleven school sites. Teachers at the pilot school feel very fortunate to have the

opportunity to implement this hands-on science inquiry program."

"We are extremely proud to be a part of a science partnership," said Audrey Clark, Superintendent of the Lynwood Unified School District, "because it provides an outstanding opportunity for our students in science."

"We are excited that this fits into our long-range planning and sets up a partnership with the scientific community," stated Carolyn Wertz, Title I Specialist for the Baldwin Park Unified School District.

## CLUB: Science Education Club serves as forum for prospective educators

CONTINUED FROM P. 1

use of animals in education and research. This law contains detailed rules that all institutions using animals must follow. Caltech has an Animal Care and Use Committee, which is responsible for compliance with these regulations on the Caltech campus. Dr. Baer gives required instruction in appropriate animal care to all members of the Caltech community who use animals in education and research and is available at other times to answer questions.

During lengthy discussion, a common theme emerged that both students and teachers should be given

a choice about how they use animals, especially when animal dissection is involved.

This ethical dilemma offers an opportunity for instructors and students to discuss the value of life and respect for living things, and members felt that this opportunity should be used to its full advantage.

Suggested topics for future meetings of the science education club might include balancing teaching and research commitments, inquiry based teaching/learning, and opportunities for involvement in science education. For further information about the science education club, contact Jane Sanders at x3297 or jzs@cco.caltech.edu.

## LAEMMILE THEATRES

### ESQUIRE

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"Seething with sexuality."  
—Playboy

### Angels & Insects

Daily 4:50, 7:25, 9:55 p.m.

Sat-Sun Bargain Matinee 2:15 p.m.

starts Wednesday, March 13

Pedro Almodóvar's

The Flower of My Secret

Wed-Thurs 5:00, 7:30, 9:50 p.m.

### COLORADO

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(818) 796-9704

Robert DeNiro in

### Martin Scorsese's TAXI DRIVER

Daily 4:30, 7:00, 9:30 p.m.

Sat-Sun Bargain Matinee 1:45 p.m.

# SUCCESS & FAILURE

by Samson Timoner

Did you know that in his first season of coaching the Forty-Niners, Bill Walsh won 2 games and lost 14? You could argue that Bill Walsh was a failure his first year coaching. One of his staffers thought so and told the management that the team was "adrift" without goals. Bill didn't agree. The team had gone from dead last in overall offensive statistics the year before to sixth overall. They were losing but they were improving at the same time. Management agreed with Bill and fired the staffer. The Forty-Niners had another losing season the next year, but they were only barely losing each game. In his third year of coaching, Bill Walsh won the Super Bowl.

Bill Walsh knows what so many other successful people know: there is no such thing as failure. People make errors, face setbacks and make utter fools of themselves, but no one ever fails. Failure suggests total disaster. In every setback, there is something positive. Bill Walsh saw improvement in his team despite losing 14 games. Similarly after every mistake we make, we can learn never to make the same mistake again. In my experience, all of those clichés that you know about unpleasant situations are true: to every cloud there is a sil-

ver lining, after every rainstorm there is a rainbow.

Many times, it is the right attitude that is necessary to find the silver lining of a setback. Don Shula, former coach of the Miami Dolphins, always allowed himself 24 hours after a game to brood over a loss or celebrate a victory. His attitude was, "success is not forever and failure isn't fatal." He spent those hours trying to learn from his mistakes and learn which decisions were correct. After his reflection time, it was time to think about the next game. Learn from Don Shula: success is not forever and failure isn't fatal, for tomorrow is another day.

Like Don Shula or Bill Walsh, we all face setbacks. The fact is that we don't always achieve our goals. Sometimes not achieving a goal is crushing — to be rejected from the school of your dreams, to not sing well enough to make a choir, or to finish second in a competition. It is very easy to become depressed after failing to achieve a goal. But successful people can always find the positive side of a setback. Attitude makes the difference between depression and bouncing back for the next challenge. You can always find a positive side if you have the right attitude.

Many SURFers, including myself, didn't accomplish their research goals last summer. But in my case for example, I learned

valuable information about the process I was researching. I also learned a lot about the instruments in my laboratory. Was my SURF a failure since I didn't accomplish my goals? Definitely not — nor was anyone else's.

Many business entrepreneurs don't succeed on their first (and second ....) try to start a business. Consider Karl Eller who is an excellent example of someone who made a major blunder in business. In 1990, this guy was a centimillionaire after turning Circle K into a \$3.5 billion convenience store chain. But, he overextended the business and Circle K collapsed under the wrath of a recession and fierce competition. Eller lost everything and was almost penniless in 1992. But today, Eller runs Eller Media Co. which operates 43,000 billboards in this country, about half of the billboards in the United States' 25 largest markets. When Karl Eller became penniless, he didn't give up on life. Instead he bounced back and started a new company. He learned from his mistakes. Before the collapse he was known as a man who would do a deal for the sake of doing a deal. "I'm a lot more restrained about deals now," he says. Eller is a centimillionaire again.

As we enter finals week, the idea of learning from mistakes is a valuable one. Now is the time to take out those homeworks and midterms and see what mistakes you made on them. Think of all those errors you made and the points that they cost you as an opportunity to learn to never make the same mistakes again. If you don't do very well during finals week, just remember, there is another finals week around the corner where you can aim to do better.

The next time you make a blunder, try to find out what you did wrong and how you can do better next time. Think about Babe Ruth. He is the all-time leader in striking-out in professional baseball history. Everyone makes mistakes sometimes. Of course, he learned from his mistakes and made opposing pitchers pay the price.

# ATHLETIC ACCOLADES Game, Set, Match

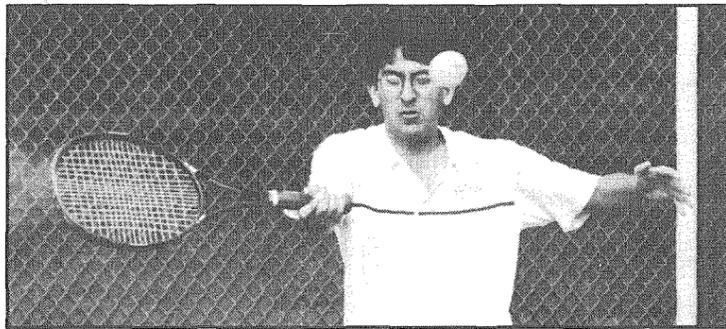


PHOTO BY BOB FAZ

Senior Atul Salvekar

by Angie Bealko

When senior Atul Salvekar was a freshman, he was the only member of his class on the men's varsity tennis team. For four years he has played on the team, and worked his way up through the line up. Besides being on the tennis team, Atul has played with the chamber music group the past four years and averaged 53 units a term! No easy feat to begin with...and an even more difficult one considering that his major is electrical engineering.

When asked how he juggles such a heavy workload and manages to play a varsity sport as well, Atul said: "I think Caltech is a blessing in disguise. It's really hard right when you come to get motivated to do the amount of work necessary at Caltech. But, I think that once you get used to the workload you come out ahead. Its kind of like positive feedback. You do lots of stuff, so the people around you do lots of stuff, so you do more, etc... I think my activities have helped me to take a break from studies and allow me to relax for a few hours everyday. I think what sports bring out that many people forget about is a kind of 'relaxed concentration.'"

When Atul came to Caltech, he hadn't played competitive tennis for three years. He simply hoped to make the tennis team,

but had no expectations. Due to other players' injuries, and his own improved playing, he was able to play often, and to his surprise earned a varsity letter that first year. However, Atul's unexpected fortune has been met with its share of bad luck, as well. He had tennis elbow freshman year, and the last two years, he has been sick for part of the season. Despite these few setbacks, Atul has been an extremely consistent player for the team.

He has typically played between numbers 4 and 6 on the team, with an occasional appearance at the third spot. He has won some big matches but when asked when he played his best match ever, he talked about a match he lost to BYU-Hawaii in straight sets. One match in particular sticks out for him because it was an important "come from behind" victory. It was against La Verne. He had split sets with this guy who served and volleyed. Atul was way down in the third set. The coach came by and told him that the match was important, and that Atul had to pull it through. Atul clinched his match, and that enabled Caltech to win 5-4. This year Atul is co-captain with his doubles partner Amir Alagheband.

This is the first year that he is playing doubles on a regular basis, and Atul believes it's helping his game all-around. Atul has improved a lot over his career at Caltech and is an extremely concentrated player. After he graduates he plans to go to graduate school in optics or communications.

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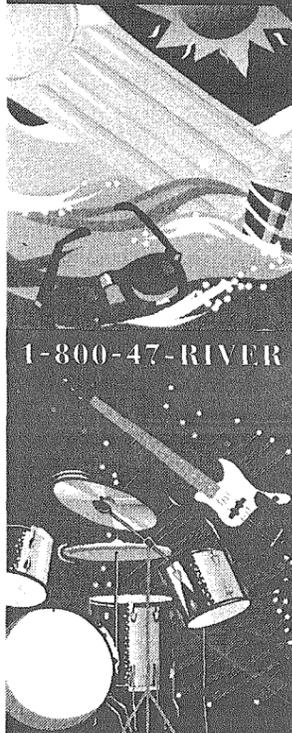
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## Songs of Tech-- From the 1933-34 Little t

### The Dirty Engineers

1. We are the Dirty Engineers  
The engineers who have no fears  
But after all, we're proud to be  
An Engineer of C.I.T.

2. E to the x, dx, they shout  
The Beaver's in, The Bruin's out  
Pomona's feathers in the pail  
We've got the Tiger by the tail.

3. The marvels of the ancient day  
And Horner's most elusive way  
And Issac Newton's juicy fruit  
Has nothing on our "Instipoot"

4. Old Noah built a mighty ark  
He laid the keel in Tournament  
Park,  
But he didn't know how to make it  
steer  
So he had to call an engineer.

5. Inspiring scenery comes to view  
The dormitory's muddy hue;  
Apollo in his birthday suit,  
The great God of the institute.

6. The pool out near the physics lab  
To bathe the Frosh when they are  
bad  
Is something new we like to see,  
It shows a sense of pur-ity.

7. It surely was a glorious day  
We brought our books and came to  
stay  
But multiply that joy by eight  
Upon the day we GRADUATE!!!!!!!

### The Tech Locomotive Yell

Motors-Bridges-Beveled-Gears,  
Go C.I.T. Engineers!  
Rah Tech!

The Tech Yell  
California Tech,  
California Tech,  
Cal-if-or-nia  
tech, Tech, TECH!!!!!!!  
(editor's favorite cheer...)  
The Fighting Beaver

Lead us on; our Fighting Beaver  
Till the foe shall yield  
Onward down the field  
Our courage ever steeled.  
Lead us on amid the clouds  
Of darknes and of doubt and fear  
Until the World shall recognize  
The fighting Engineers.

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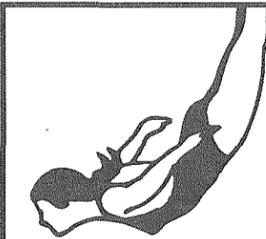
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## Hail to the Chief

by Angie Bealko

When Caltech chose Dr. Daniel Bridges to be its new Athletic Director in 1990, it was probably one of the best decisions it ever made that directly benefited a vast number of students (not to mention staff and faculty). Dr. Bridges has been at Caltech since 1985. He obtained his B.A. and M.A. from Cal State University at Long Beach and his Ph.D. from USC.

Before he was appointed the new Athletic Director, Dr. Bridges was an assistant baseball coach at Caltech, and the Athletic Director and head baseball coach at Brentwood High School for eight years. Over the past 6 years Dan has made tremendous strides in the athletic department. Besides helping start a new women's basketball team and supporting students who want to start club sports, Dr. Bridges has made students the number one priority at the athletic facilities. Whenever an athlete has a concern his door is always open. He is probably the most sincere and dedicated department head at this entire university. Not only does he do his job well, he goes above and beyond the call of duty.



## UPCOMING EVENTS

by Angie Bealko

Friday 3/8		Saturday 3/9	
Golf	SCIAC Championships	Torrey Pines	All Day
Baseball	Whittier	AWAY	2:30 p.m.
Golf	SCIAC Championships	Torrey Pines	All Day
Men's Tennis	CMS	AWAY	9:30 a.m.
Women's Tennis	CMS	HOME	9:30 a.m.
Baseball	Whittier	HOME	11 a.m.
M. Volleyball	BIOLA	HOME	2 p.m.

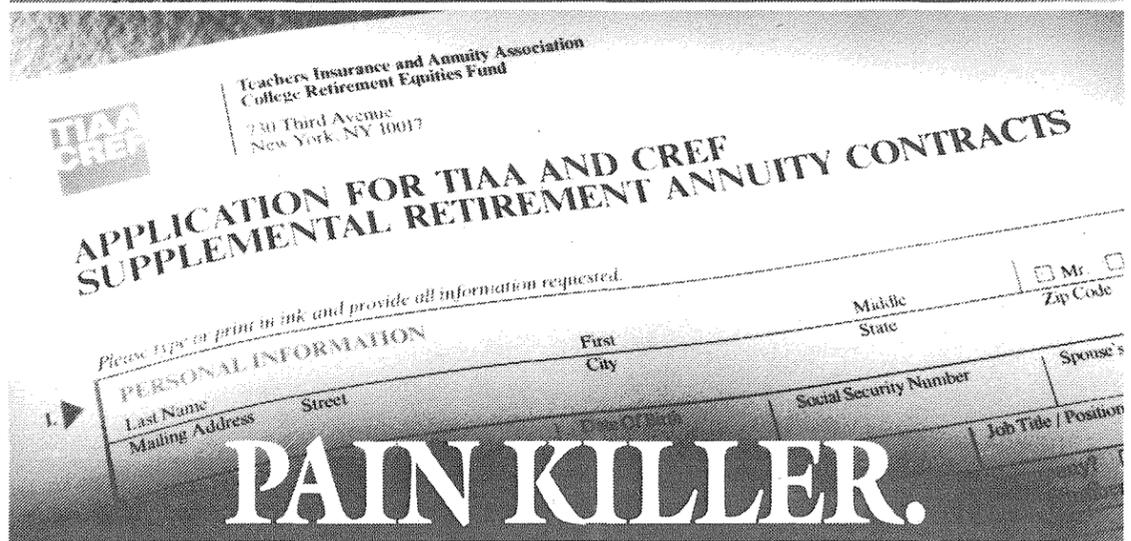
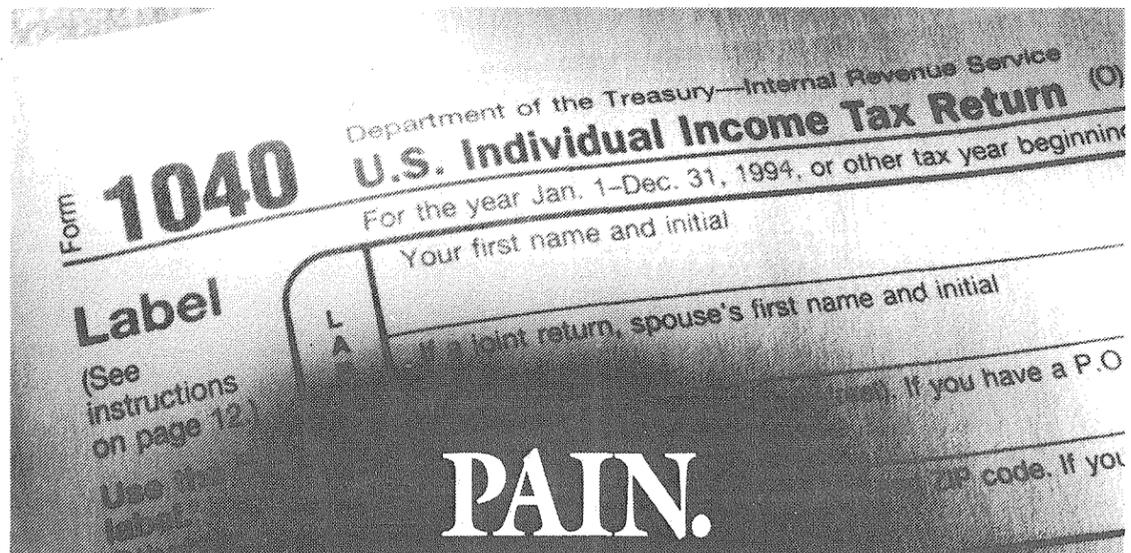
Going, going, gone!

He comes to away and home contests, watches practices, runs raffles at basketball games, solicits student and staff opinion, helps set up for athletic events, and basically tries his best to make everyone happy...and he succeeds. He has been extremely supportive of the Athletic Mentor Program (ACME) which provides services to student athletes and organizes the end of the year recognition banquet.

Dr. Bridges is very dedicated to his work and for that reason he is an important asset to the community. Besides being A.D. at Caltech, Dan is currently serving as a member of the NCAA Council, the NCAA Championship Committee, and the NCAA Restructuring Oversight Committee. He is the current chair of the NCAA Division III Task Force on Restructuring, and the NCAA District 8 Postgraduate Scholarship Screening Committee.

Dr. Bridges believes that "the Athletic Department's primary goal is to provide a broad range of quality, competitive opportunities which enable the participation of a diverse population of Caltech students. The best indicator of our success is the fact that we field a total of 18 intercollegiate teams for a student body of 900." Dr. Bridges is to be commended for his outstanding commitment to the students of Caltech and the community in general. He sets an excellent example of how a department can be run efficiently, openly, and successfully, while still having a lot of fun.

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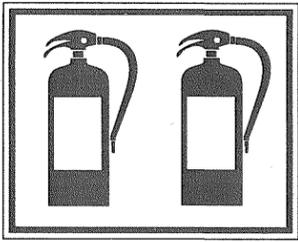
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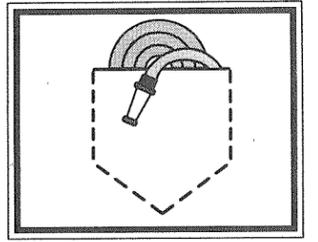
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Issue Countdown: 0

## Little Strange Labyrinth

The Tech Editors were working on the last issue of their term of office, when who should walk into the office but Achilles and his good friend, Mr. Tortoise.

**Achilles:** Hello there, fellows!

**Tech Editors:** Good evening, Achilles and Mr. Tortoise. Please come in. We are working on a last issue, while reflecting over the year. See, all of our issues are on the table.

**Tortoise:** And what is this? Why, it looks like the magic tonic from "Little Harmonic Labyrinth" in Douglas Hofstadter's *Gödel, Escher, Bach*. Do you remember it, Achilles?

**Achilles:** Yes, we used it to travel in and out of paintings. You don't suppose it works for newsprint, do you?

**Tortoise:** I don't know, but I'm always up for an adventure.

**Tech Editors:** Heck, we've missed our deadline by several hours, so, let's go.

*Tech Editors, Achilles, and the Tortoise drink tonic, and find themselves in another world.*

**Achilles:**

Wow, it sure seems to have worked. Where are we?

**Tech Editors:** Cool! We're in the Ditch Day issue. Check out the water slide! And the giant maze. And the rocket.

**Tortoise:** This is indeed cool!

**Tech Editors:** Why don't we move forward a few issues?

**Tortoise:** Sounds good. Hey, who's this character here?

*Dilbert® and Wally run by, being chased by their boss.*

**Dilbert®:** "Run! It's too late for me but you can save yourselves!"

**Achilles:** Most bizarre. Ah, we seemed to have walked into a Watson Lecture. I wonder if the text will change if we run down the isles yelling "I am an electronic nose!" Here I go! Hahaha!

**Tortoise:** No, Achilles! Wait!

*The author of the article looks over, sees Achilles, and writes him into his story.*

**Tech Editors:** Well, we think we ought to finish our issue for tomorrow. Won't we head back to the staff box and look for a way out?

**Achilles:** Of course.

*They head back to the staff box, and walk across a picture of people working on the paper for a "Work for the Tech" ad. The adventurers look at the newspaper in the picture.*

**Tortoise:** Look, some of the ink in this article has been smudged by someone putting too much wax on the page. What once said "a large catastrophe occurred last week", now says "a large car purred last week." How silly!

*Achilles notices himself written into the story about the Watson Lecture.*

**Achilles:** Wow, there I am! I wonder if I could meet myself. And we have saved some tonic. Remember when we went into a picture inside of a picture, Mr. Tortoise? I wonder if it also works for newsprint.

*They all drink tonic, and go into newspaper.*

**Achilles:** Hmmm. We seem to be in another part of campus. Look, a sign is posted announcing the new winners of the ASCIT elections. Looks like most of the editors have run for and secured a second year in office. Hey, where did Steve go?

**Tortoise:** And where did this duck come from?

**Duck:** And, speaking of animals, does anyone recognize that huge thing coming our way?

**Tech Editors:** Oh, no! It's the cat from our ad last year. And it seems to remember us. Let's get out of here!

*Everyone drinks more tonic just as the cat pounces. Our adventurers find themselves in yet another newspaper.*

**Achilles:** I'm starting to worry about getting out of here. In our last encounter with the tonic, we eventually found some popcorn to pop us out of layers. What are we going to do in this situation?

**Tortoise:** Have faith, Achilles. This is newsprint, and the author will have to keep his work short. Recall that we, at our highest level, are simply figures in a newspaper story, and newspaper stories have to be short.

**Achilles:** Looks like some bits were edited out. You were right again, Mr. Tortoise; here we are, at our own level of existence again.

**Tech Editors:** And here we are, even later for our deadline. If you'll excuse us...

**Achilles:** But of course. Good luck next year!

**Tortoise:** And good day.

Dilbert® by Scott Adams is a trademark of United Media.

Read *Gödel, Escher, Bach* by Douglas Hofstadter!

-SDV

## A Massless, Frictionless World

He was a massless, frictionless man with a massless, frictionless life. He lived in a massless, frictionless world filled with massless, frictionless people. (It neighbored Flatland.)

Born a massless, frictionless baby, he sucked his massless, frictionless thumb (nearly choking on it several times). He spent most of his time in a massless, frictionless crib cuddled up against his massless, frictionless blanket. (He was bored.)

As a child he lived in a massless, frictionless home with a massless, frictionless family and a massless, frictionless dog. They provided him with a load of massless, frictionless crap. (But it *still* stunk.)

He slept in a massless, frictionless bed (he had this nagging tendency to fall off of it when he made even the slightest movement) and ate massless, frictionless food. (It was not very filling and passed right through his massless, frictionless digestive track, giving him diarrhea.)

He played with massless, frictionless friends an odd assortment of massless, frictionless games. (Sliding into bases was a real hazard.) He went to massless, frictionless parties and drank massless, frictionless alcohol. (But he *still* got drunk and had to be propped up by his friends to wait for the massless, frictionless taxi they called for him. In the meantime, a massless, frictionless thief stole his massless, frictionless wallet which contained massless, frictionless money. He awoke in the massless, frictionless morning to the chirping of massless, frictionless birds, who seemed extremely pleased that he had a massless, frictionless hangover. His massless, frictionless parents were pissed off, so they gave him a massless frictionless beating which *still* hurt.)

Eventually, he got a massless, frictionless clue and actually started caring about mass, frictionless things such as himself. So he kicked himself in his massless, frictionless behind and went on with his massless, frictionless life which didn't seem to care much about him.

At a massless, frictionless college, he was taught about massless, frictionless springs (*and strings and pulleys*) by massless, frictionless professors who wrote with massless, frictionless chalk on massless, frictionless chalkboards. After this massless, frictionless torture, his mind was both massless and frictionless.

He grew up and got a massless, frictionless job. As a lawyer, he defended massless, frictionless defendants (like O.J. Simpson) who may or may not have committed massless, frictionless murders of massless, frictionless people. (Believe me, it would require great precision.)

He again grew bored and married a massless frictionless wife. (She then divorced her massless, frictionless husband.) Their lives soon became massless and frictionless, so they divorced after a few years. She took possession of their three massless, frictionless children and remarried her old husband. (He later killed her with a massless, frictionless knife, which was admittedly quite sharp. It was really expensive and messy.)

Sick of being honest, he stole a massless, frictionless truck and drove off a massless, frictionless cliff in a spontaneous hope for everlasting life. Being massless and frictionless, he didn't have to worry about momentum. He crashed anyway and was transformed (nonlinearly) into massless, frictionless chunks. (The subtleties involved were both massless and frictionless, not to mention pointless, since he was now dead.)

Anybody who thinks this is true is clearly both massless and frictionless and probably doesn't know me very well since I'm not dead. (Besides, one can feel both massless and frictionless without being suicidal!)

-MAP



# Tech Takes Trojans in Three

by Rich Chin

On Tuesday, February 27th, the Caltech Men's Volleyball Club traveled to USC for a rematch against their club team. Although Caltech was missing several of its regulars, the team played solidly and aggressively, overpowering its opposition.

The first game got off to a rocky start as Caltech gave USC a 7-0 lead as the team took some time to get used to the environment and the new rotation. Just as USC started to become a little more complacent, Caltech shifted into overdrive. Every aspect of Caltech's game clicked into place. The serves picked apart the USC passing game while Tech's own swing hitters found their passing rhythm. The Caltech block almost became an offensive weapon, either rejecting the USC attack completely or funneling it to a waiting defender. Caltech's own offense was almost flawless, with Brendan McKenney and Aaron Kiely power hitting, Ken Wiberg and Steve Sears dominating from the middle, and Andreas Masuhr just awesome from opposite. Caltech went on a 15-1 streak, taking the first game 15-8.

In the second, Caltech showed the versatility and depth of its roster as Mike Burl moved to opposite hitter and Andy Berkin and Joel Jones substituted in at various times for swing hitter and defensive specialist. USC thought it had a chance when it took a late 12-10 lead, but Andreas Masuhr came in to the game for setter Rich Chin on Aaron Kiely's serve. Caltech ran off 3 points behind his block as he had 2 block assists and 1 solo stuff-block on the USC power hitter. Caltech went on to finish the game, 15-12.

The third game was a battle as both teams were playing well, although not brilliantly. The score slowly crept up as the lead changed hands several times. The solid confidence of the Caltech team won out in the end as Ken Wiberg capped the match off with an ace off the hands of a USC passer, giving Caltech the game and match, 17-15.

On Saturday, March 2, the club sent off a small team to a Westside tournament held at University High School. The tournament had teams that were mainly USAV teams, and Caltech played in the top division. The team included none of the middle blockers and some of the regulars were playing in relatively new positions. However,

the team still did extremely well, going 4-4 in the round-robin format, with most of the losses coming in extremely close games. Congratulations to Andy Berkin, Mike Burl, Rich Chin, Weng Ki Ching, Joel Jones, Andreas Masuhr, and Brendan

*"going, going, gone!"*

McKenney for a job well done.

This Saturday, March 9, is the second home match of the season. Caltech plays Biola, and the last meeting of the two resulted in an exciting five-setter that was Caltech won 15-13 in the fifth. Match time starts at 2 p.m. in Brown Gym for the hottest volleyball action in town.

# Tech Seeks New Sports Editor

With the graduation of current Sports Editor, Angie Bealko, the California Tech is seeking candidates to fill the position next term.

Angie Bealko, who has held the position during second term, was a great asset to the Tech, and her incisive sportswriting and exciting pictures will be sorely missed.

Interested candidates should email [editors@tech](mailto:editors@tech) or talk to one of the current editors.

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Announcements

Ψ Don't know what you're up to this break? Think about volunteering for the **American Red Cross!** Due to an increase in local blood drives, the San Gabriel Valley Chapter of the American Red Cross needs volunteers immediately to assist with blood drive efforts. Volunteers for blood drives are needed to provide registration services, meeting and greeting blood donors and going over certain registration materials with them. No special training is necessary to become a volunteer. For further information on volunteering, call Rita Chick at the San Gabriel Valley Chapter of the American Red Cross at (818) 799-0841, extension 24.

Ψ When Irish Eyes Are Smiling... They try their luck at the **Caltech Bookstore Pot o' Gold Raffle!** The Caltech Bookstore is holding a raffle for a pot of gold foil covered chocolates on Thursday, March 14th at noon; no purchase is necessary to enter.

**Delta Airlines** is offering special "extra credit" student fares as low as **\$138 round-trip** (and as high as \$318, depending upon locations of travel) for travel between today and March 31st. Tickets are non-refundable and must be purchased at least seven days before departure, with certain blackout dates. To get these special rates, students are to call Delta at 1-800-9DELTA0.

Events

Ψ As part of International Women's Day celebration, the Women's Center will present a Sharon Glassman's **Water Over Time**: a monologue of women and science on Friday, March 8th, at noon in the Winnett Lounge. RSVP for lunch at x3221.

Ψ The Caltech Management Association presents **Robert Legato**, the visual effects supervisor for Ron Howard's "Apollo 13", to discuss "The Making of Apollo 13" on Monday, March 11th at 4:30pm in the von Karman Auditorium. With liberal use of video, this presentation will give an up-close view of the making of a modern motion picture, narrated by the key effects specialist involved in the production. All employees are invited to attend this event.

Ψ The Caltech Folk Music Society will present **Ruth Barrett and Cynthia Smith** in concert on Saturday, March 30th, at 8pm in the Dabney Lounge. Tickets are available in advance and at the door for \$10 general admission, \$4 for students.

March is Women's History Month and the Caltech Women's Center will be celebrating **International Women's Day** on Friday, March 8th. The program will be at noon in Winnett Lounge; lunch will be served and reservations are required. More information is upcoming from the Women's Center on this event.

The next **Women's Center Dinner** with a female scientist is scheduled for April 2nd at 7pm at the



Ψ denotes a new announcement.

Women's Center. Reservations are required to attend the dinner, although all are welcome to join in the succeeding discussion that will start at 7:40pm.

Club Announcements

Ψ The **Caltech Ballroom Dance Club** is continuing its salsa and waltz classes. Salsa is held Wednesdays from 7 to 8:30pm in Winnett (1st floor), while Waltz is held Fridays from 7 to 8:30pm in Dabney House Dining Room (not Dabney Hall). Both classes introductory; no partners is needed. The price is \$12 for 4 classes for Caltech/JPL people, and \$20 for others. Contact Ching Liu at [chingliu@uges.caltech.edu](mailto:chingliu@uges.caltech.edu) or 795-0660 for more information.

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.

Fellowships and Scholarships

Ψ The **Mathematics Department** is pleased to announce two categories of prizes to be offered again this year to Caltech undergraduate students:

1. The **E.T. Bell Undergraduate Mathematics Research Prize**—A cash prize of \$500 awarded for the best original mathematics paper written by a Caltech Junior or Senior. Contestants for the Bell prize must be nominated by a faculty member familiar with their work. Students who wish to be considered for this prize should contact a member of the Mathematics faculty prior to the end of the second term to discuss the nature of the research. If the entry is sufficiently worthy, the faculty member will nominate the contestant and act as sponsor. Each student is entitled to only one entry. All contestants nominated must submit their papers in final form to their faculty sponsors by the end of

the fourth week of the third term, (April 26). A faculty committee will then judge the papers and announce its decision before the end of the third term. The committee may award duplicate prizes in case of more than one outstanding entry. The name of the winner (or winners) will appear in the commencement program.

2. The **Morgan Ward Competition**—Any Caltech freshman or sophomore may enter this contest. An entry may be individual (submitted by one student) or joint (submitted by a group of two or more students). Each student is entitled to at most three entries, of which two may be individual. An entry is to consist of a mathematical problem, together with a solution or significant contribution toward a solution. The problem may have any source, but this source should be stated in the entry. The entries may be judged on the basis of the nature of the problem, originality and elegance of the solution. Any outside references used should be indicated. Entries from each contestant or group must be placed in an envelope and delivered to the Mathematics Office, 253 Sloan, during the fourth week of the third term. The names of the contestant, or the names of all participants in the case of a joint entry, must be written on the envelope only, not on the entry. The Judging Committee will consist of three volunteers, approved by a vote of the Caltech Mathematics Club. The judges will select a group of finalists and submit their entries to the mathematics department faculty who will make awards to the winners. Prizes will ordinarily be awarded for the 2 to 4 best entries, the value of each prize being \$75. Prizes for individual entries will be limited to one to a contestant, and no group may receive more than one prize.

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

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@ciwvnet.org](mailto:ISICgrants@ciwvnet.org).

**Travel funds** are available for African-Americans, Asian-Americans, Arab-Americans, Hispanic-Americans, and Native-Americans are now available through Robert B. Bailey III Minority Student Scholarship Fund for Education Abroad. Applicant must be U.S. citizens or permanent residents and must participate in a CIEE program abroad—this includes workcamp programs. For a brochure on this pro-

gram, e-mail: [BaileyGrants@ciwvnet.org](mailto:BaileyGrants@ciwvnet.org) The most recent edition of **STUDENT TRAVELS** magazine (p.12-13) details the experiences in Germany of a student who received a travel grant from this program. E-mail [lauren\\_stolper@starbase1.caltech.edu](mailto:lauren_stolper@starbase1.caltech.edu) for a copy.

**Work Abroad this Summer!** The Council for International Educational Exchange has work programs in eight countries: Britain, Ireland, France, Canada, Germany, New Zealand, Costa Rica, and Jamaica. They arrange for a work permit for a modest fee and can help you get a job. If you would like more information, e-mail [lauren\\_stolper@starbase1.caltech.edu](mailto:lauren_stolper@starbase1.caltech.edu) Put CIEE Work Abroad Program in the subject line and include your name and box number.

**Web Info on Travel to Britain.** Here's a list of Web sites in Britain that students and faculty may find of interest. Remember that the Fellowships Office has a travel section with information on travel to Britain.

**British Airways** <http://www.british-airways.com>  
**British Tourist Authority** <http://www.bta.org.uk>  
**West Country Tourist Board** <http://www.wctb.co.uk>  
**South East England Tourist Board** <http://www.se-eng-tourist-board.org.uk/seetb/Wales>  
**Tourist Board** <http://www.tourism.wales.gov.uk>  
**Northern Ireland Tourist Board** <http://www.intelknnowledge.com/northern-ireland/>  
**Scottish Tourist Board** <http://www.scotourist.org.uk/stb/>

**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.

From the **Deans' Office**, 102 Parsons-Gates:

The **Sunkyoung Group Of Korea** is proud to present its Fourth Annual Essay Contest for registered undergraduate students in the areas of business, government/law, science, and communications. The top three essays in each category will be selected as the winners of Sunkyoung's 1996 "Global Leaders of Tomorrow" Essay Contest. Sunkyoung is a leader in the fields of energy, international trade, petrochemical products, telecommunications, and engineering & construction, which places Sunkyoung among the top 100 companies in the world, with annual revenues of over 22 billion. Entrants must be a registered college undergraduate or graduate at the time entry is submitted. The Categories for the essay must come under one of the following areas: Business/all areas, Government/Law-all areas, Science/all areas, Communications-all areas (including journalism, advertising, telecommunications, public relations, mass communications). For more information on guidelines or judging criteria, please contact the Dean of Students Office. All contest entries must be postmarked no later than **April 1st, 1996**.

The Beckman Internship will be available for the summer of 1996. The internship, supported by friends of Arnold Beckman, will pay a stipend of \$3600 and allows a selected intern to spend the summer working in the office of a politician to see the inside process of government. The intern is expected to make arrangements with the appropriate political persons. It is open to any undergraduate who intends to be a Caltech student next year. If interested, submit a brief proposal describing where and how you would use the stipend, to the Deans' Office, 102 Parsons-Gates, by **Monday, April 8, 1996**.

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 **Lindsley 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 Research 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 **American Scandinavian Foundation of Los Angeles Scholarship Program** announces five 1996-97 scholarships of \$1,000 to upper level and graduate students in arts and science, music, and business. Applicants must have strong academic qualifications, demonstrate some connection to Scandinavia either through field of study, life experience, or heritage, and must show financial need. To request an application form, write to: ASFLA Scholarship Program, c/o James Koenig, 3445 Winslow Drive, Los Angeles, CA 90026. Applications must be submitted by **March 15, 1996**.

The **Society of Women Engineers, Los Angeles Section (SWE-LA)** is pleased to announce their 1996-97 scholarships. In addition, they are announcing a new Microsoft Scholarship specifically for software engineers. Scholarships are available to all women in undergraduate and graduate engineering programs, with special consideration given to those students under unique circumstances and financial need. Applicants must have at least a 3.5 GPA to be eligible. The amount of each scholarship will be \$1,000. All applications and supporting materials must be postmarked no later than **March 30th, 1996**.

The **Sunkyoung Group of Korea** is proud to present its Fourth Annual Essay Contest for registered undergraduate and graduate students in the areas of business, government/law, science, and communications. The top three essays in each category will be selected as the winners of Sunkyoung's 1996 "Global Leaders of Tomorrow" Essay Contest. First Prize (4 winners) is \$2,500 plus a one week trip to Korea. Second Prize (4 winners) is \$1,000, and Third Prize (4 winners) is \$500. Applications are available at the Financial Aid Office and the entry deadline is **April 1st, 1996**.

The **Coalition of Higher Education Assistance Organization (COHEAO)** is accepting applications for three \$1,000 and six \$100 scholarships. Interested applicants must complete and mail a postcard (available at the Financial Aid Office) in order to receive an application. Postcards must be mailed by **April 1, 1996**, and the completed applications must be submitted by **June 1st, 1996**.

The **American Association of University Women (AAUW)** will be awarding several scholarships of \$500-\$1,000 to female college students who will be juniors or seniors in 1996-97, and who have lived in the San Ramon Valley. Applicants will be evaluated on the basis of scholarship, achievement, educational goals, financial need, and campus or community involvement. For more information and an application package, send your request with a \$64 stamped, self-addressed large envelope (9 x 11 1/2) to: Charlotte Orren, 248 Belaire Court, Danville, CA 94526. Applications must be postmarked by **Tuesday, April 2nd, 1996**.

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 15th, June 15th, and November 15th** (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.

YMason Porter and Steve Van Hooser would like to announce that we are no longer Tech Editors! The shackles have been lifted, setting us free! Seven more days and the term is over!

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