

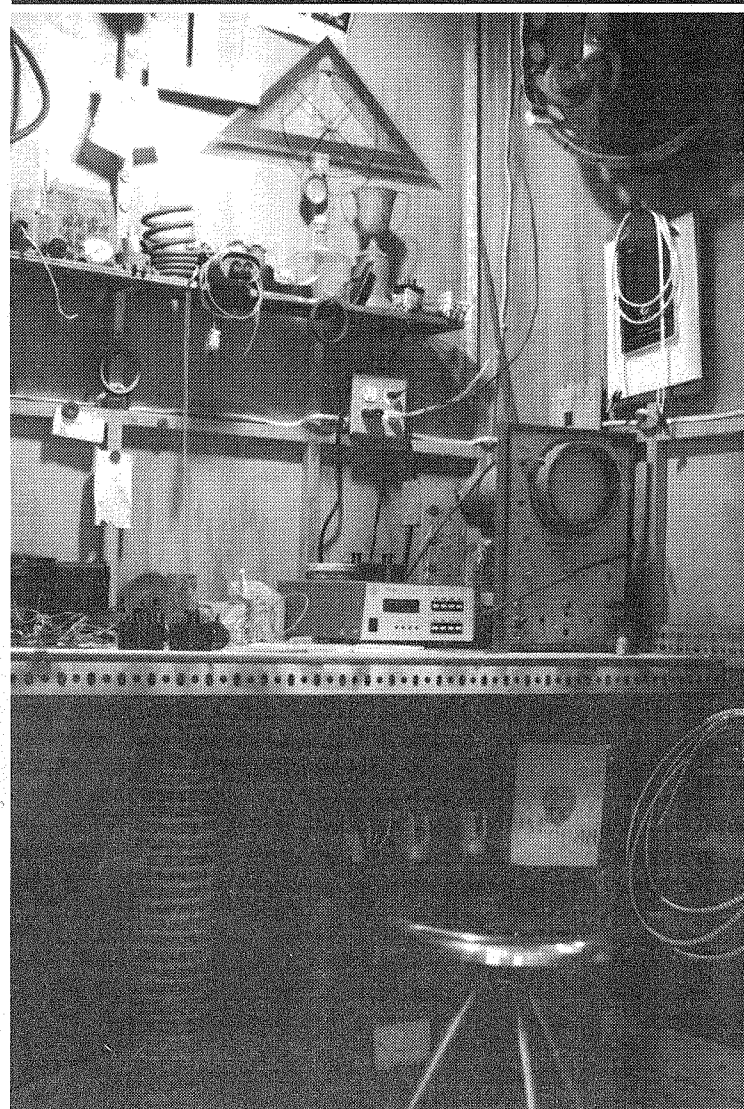


# The California Tech

VOLUME CVI, NUMBER 4

PASADENA, CALIFORNIA

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A. Green/The California Tech

Dr. Crump's Inductive Geo-Imaging Field Laboratory, a sculpture by Michael McMillen, is part of a Pasadena Public Art program.

## Hajimiri's Radar Chip Leads To 2004 Top 100 Innovators Honor

By CHRISTINE CHANG

"Technology Review" honored associate professor of Electrical Engineering Ali Hajimiri by placing him on their 2004 edition of the world's 100 Top Young Innovators for the development of a radar system on a silicon chip.

Appearing like tiny squares and rectangles of silicon, each of the chips which Hajimiri and his group created contains an entire radar system on a chip. These chips contain a phase array sys-

tem which emits a laser beam and steers electronically. Made out of silicon, which is cheaper than many other materials, this chip can be programmed with a computer and has widespread implications in high speed and wireless communications, among multiple other functions. Each design phase of each chip utilized about 5,000 man-hours by six or seven graduate students.

Hajimiri and his group had been working on the project for four years, even though they had approached it in a very focused way for the last two years, said Hajimiri.

When first embarking upon this project, Hajimiri and his group focused on determining how to use silicon technology at high frequencies and high power. "We looked at the hardest part first, finding answers to the unknown,

Pandora-Box things," said Hajimiri.

Some of the difficulties they studied first were reduction of the noise of the system, generation of power for amplification of the signal and limitations at high frequencies.

Studying the issues on a theoretical level allowed them to anticipate later challenges and to determine the limits of the system. "This was a good bar to set," said Hajimiri. Once the theoretical basis was set, Hajimiri and his team commenced with the design of the chip. "It was very important to have an open mind and not be bound by preconceived methods and the 'right way of doing it,'" Hajimiri said.

The group studied the communications aspect of the radar system, observing the limitations

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## PUBLIC ART PROGRAM KICKS OFF

TENDER LANDS COMES TO CIT

### Artist In Residence Produces Sculpture Of Laboratory

By DAVID CHEN

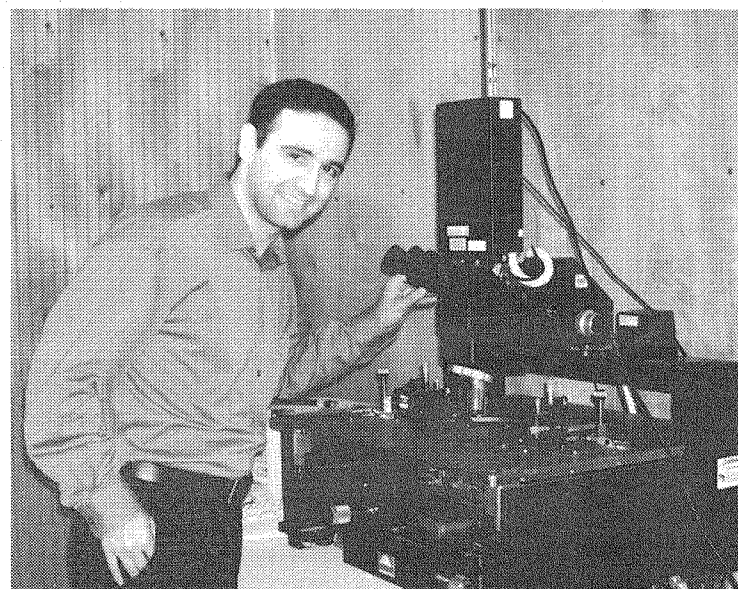
"Dude, there's this towable trailer that's been parked here for the past week. I wonder why security hasn't moved it yet."

Such may be the thoughts of students as they walk past the end of the Olive Walk to the Coy Pond and observe a small, portable room that seems to have been abandoned. In reality, that object is an art exhibit titled Dr. Crump's Inductive Geo-Imaging Field Laboratory. In fact, this month heralds the start of two art events, The Tender Land and the Artist in Residence program.

Dr. Crump's Geo-Imaging Field Laboratory, by Michael C. McMillen, is part of Caltech's program for "The Tender Land: A Festival of Art, History, Music and Science," a Pasadena-wide art event that began this month. Fourteen sites, including Caltech, have created art exhibits and publications. The theme for the event is ecology and the human relationships to nature.

In addition to the Field Laboratory, Caltech features Stellar

*Continued on Page 2, Column 4*



L. Tran/The California Tech

Dr. Ali Hajimiri shows off one of the machines used to produce his revolutionary radar chip.

## Goodstein Prophecies Ending of Civilization

By JON MALMAUD

Last Wednesday, everyone's favorite Physics 1 professor gave a lecture at Beckman Auditorium about his new book, "Out of Gas: The End of the Age of Oil." In attendance were people of all ages and nations interested in hearing what Dr. Goodstein had to say about the world's current oil crisis.

The professor started off the evening with his usual charming wit. His first point of the night was to refute the argument that conservation of resources will solve our energy problems alone, noting that "energy is conserved no matter what we do."

Having the audience's undivided attention, he launched into a half-hour discussion of the histo-

ry and science of oil, starting several hundred million years ago. One might suspect he was back in Bridge lecture hall with innocent frosh instead of an audience consisting of lawyers, retired seniors and Dean Revel. Nevertheless, the audience seemed delighted when Goodstein commented that "[Joule] discovered [the Law of Conservation of Energy] so well that it never had to be discovered again" (The Law had been discovered independently over eight times).

He proceeded to move from history to science as we all so well remember him doing in class. The professor explained the electromagnetic spectrum and why we can't see infrared light

*Continued on Page 2, Column 1*

## Record 3-Win Season Goal for Soccer Team

By BRIAN ZHOU

Two spectacular shutout wins against Bethany College and Whittier College early in the season gave the Caltech campus hope of a breakout season for the men's soccer team. While the adrenaline from those victories could not propel the team to greater triumphs, positive karma still thrives. The players, who show no signs of letdown, swell in confidence and chemistry.

In their last game, the team fell 1-7 to the University of La Verne, its sixth straight loss after the Whittier victory. Lost in the lopsided box score, however, is the fact that Caltech actually scored first and held the lead for roughly ten minutes. Perhaps the early goal gave the team hope for a surprise upset since the team's record had been a perfect 2-0 in games in which they netted a goal this season.

Nevertheless, freshman midfielder Nathan Chan expresses the importance of scoring. "Scoring a goal against them was big... we learned we can score goals against the best teams." The goal against La Verne ended a four game scoring drought, in which

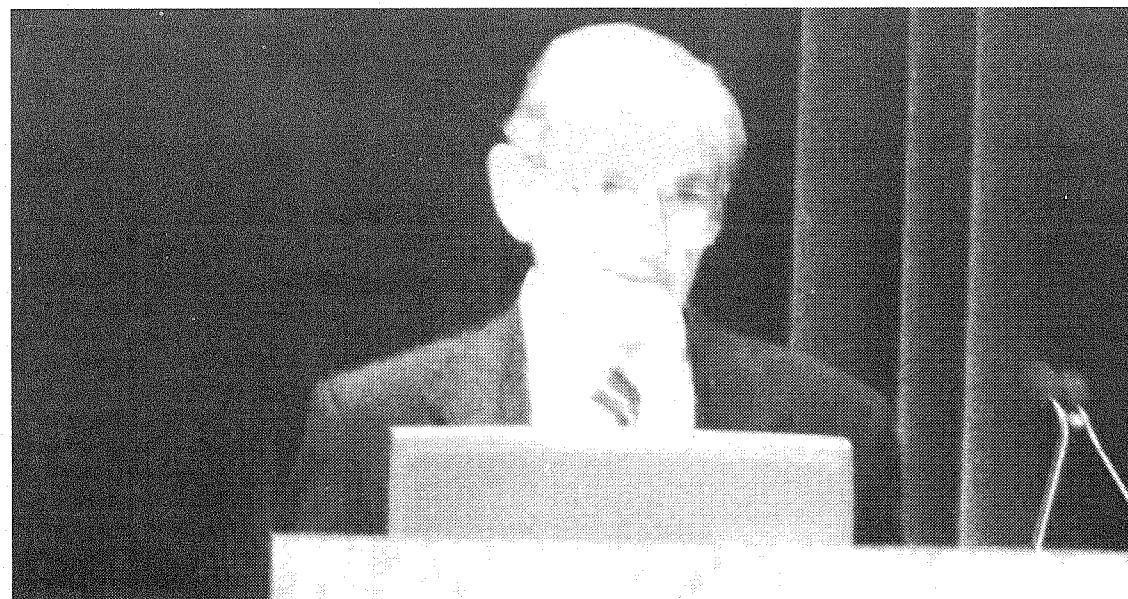
the team's goal differential was a woeful -22.

Next Wednesday, October 20 at 4:00 P.M., the team anticipates a competitive rematch against Whittier College. Unbelievably, Caltech may go into the game as the favorites; the team's shutdown defense suffocated the Whittier team in a 1-0 victory last match. As both of its wins this season have been on the road, the team hopes to one-up their win column total to an incredible three wins in front of the home crowd. Senior striker Evan Rushton stopped short of guaranteeing victory, conservatively judging, "I'd say we have 2 to 1 odds... I expect a win."

Indeed, after playing ten of their first sixteen games on the road, the players are delighted to be back home and expect maximum support and showing from the fans in arguably the biggest game of the year.

The process of building a reputable soccer unit is long and arduous, but the seeds for a stronger future seem to have been sown in this year's team. Rushton rates the freshman class as "pretty solid"

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L. Tran/The California Tech

Dr. David Goodstein explains why he thinks civilization as we know it will come to an end sometime this century. The loss of oil as an energy resource will throw the planet into turmoil.

# History, Science, Politics of Oil Crisis Outlined During Lecture

Continued from Page 1, Column 2

by sanguinely observing that "you don't glow in the dark because you're just too cool." And it seemed Goodstein was too cool indeed as waves of smiles dotted the faces of many to whom this was new material.

After some more images of beams of light from the sun baking plants to oil, he proceeded to move on to El Nino and the "thermohaline" flow. Right when it seemed the gas crisis may have been forgotten about forever, Goodstein returned in full force with a lovely description of the Greenhouse effect. Professor that he is, he claimed that global warming is an experiment with the only planet we have. If it goes awry, the result could be a Venus-like planet where temperatures are greater than that of molten lead.

How to prevent the Greenhouse effect? One solution is to build a parasol looming across the sky, akin to Mr. Burn's sun-blocking device. Not very viable. The other, less exotic solution of dumping waste carbon dioxide in the ocean isn't so hot either as oceanic ecology would be thrown into chaos.

He was forced to dip once more into history when discussing the now-famous Shell geologist Marion Hubbert. Half a century ago Hubbert predicted that the United States' oil production would peak in 1970 and after that, America would cease to be a major world exporter. Scorned at the time, Hubbert's prediction proved remarkably accurate.

In 1971 the Texas Railroad Commission, equivalent to today's OPEC, lifted all quotas and went to maximum production as new American oil sources failed to be discovered. The important point is that the world won't have an oil crisis when every drop of oil is drilled but instead when more oil is being delivered than is being discovered. The price of the now limited source of oil will be bid up and no longer be economically viable. This time when this happens is now called Hubbert's Peak.

The doctor is quick to note, however, that the current jump in

oil price doesn't necessarily mean that the world Hubbert's peak has occurred yet-oil is still half the price of bottled water and is one of the cheapest liquids available in America.

Nevertheless, the crisis is imminent. Goodstein, backed up by the majority of the world's experts, asserts that the global Hubbert's peak will occur sometime in this decade even in the most optimistic forecasts. The evidence? First, Saudi officials have said that Saudi oil fields are starting to run dry and that the world must look elsewhere to quench her energy thirst.

Second, Iraq and Iran have lied about their oil production powers for decades. The amount of oil they claim they have access to has remained constant for twenty years even though they continue to drain their fields without discovering new sources.

If the Middle East runs out of oil, the world runs out of oil-65% of all oil reserves are in the Middle East, ten times that of Russia in second. Third, the world just spent \$10 billion to find \$5 billion in oil. Supply is starting to tap out.

Won't alternate energy sources come to the rescue? Not the current ones, says Goodstein. Like buzzing freshmen, he swaps each away with a casual flick of the wrist. What about natural gas? Sorry, its Hubbert's peak already occurred thirty years ago. Maybe our hope lies in shale oil, that ancient plant life which hasn't quite been compressed into true oil? Nope, turns out it gives you only as much energy as it took to process it. And how about coal? No luck there either. Coal is dirty, poisonous and a far worse greenhouse polluter than oil. From the economic standpoint, liquid coal is five times less efficient than oil. Mining this much coal would deplete world reserves within a century and would at best buy us some time.

Even the renewable alternative energy sources provide small solace. Hydroelectric power is currently responsible for 25% of world supply but it can't go any higher. Every economically feasible river is already damned.

Wind power is only economic with large subsidies and requires huge farms even to produce intermittent power.

There is the possibility of utilizing biomass; i.e., "we grow something and burn it." But Goodstein remarks that this biofuel is really only "political fuel" as the process is actually energy negative. Geothermal sites dry up to quickly. Ten thousand nuclear fission plants could replace oil but would consume uranium reserves in a decade or two.

There are always common photovoltaic cells, those large solar panels. But at current efficiencies of around 10%, half of California would have to be covered with them to replace oil. That's around 2000 times the amount of solar cells that the world has produced so far.

Currently, oil is vital to society. It is used in making petrochemicals to improve agricultural efficiency. The world's population is not sustainable without petrochemicals. Oil powers transportation vehicles. A third of the world is powered by oil. While Goodstein puts in his part by driving a hybrid car and popularizing the crisis, others at Caltech continue to develop new forms of energy.

You might call the Chemistry 1 professor Nate Lewis "Captain Planet" as he, Harry Gray and others work in the research group known as "Powering the Planet" to provide us with the future of energy today. Professor Goodstein doesn't seem to have much faith in the future, however, as he ended the lecture with the dire remark: "I'm going to make a prediction. Civilization will come to an end within a century." He did note that our dark fate could be reversed if we politically and socially move towards new forms of energy as soon as possible.

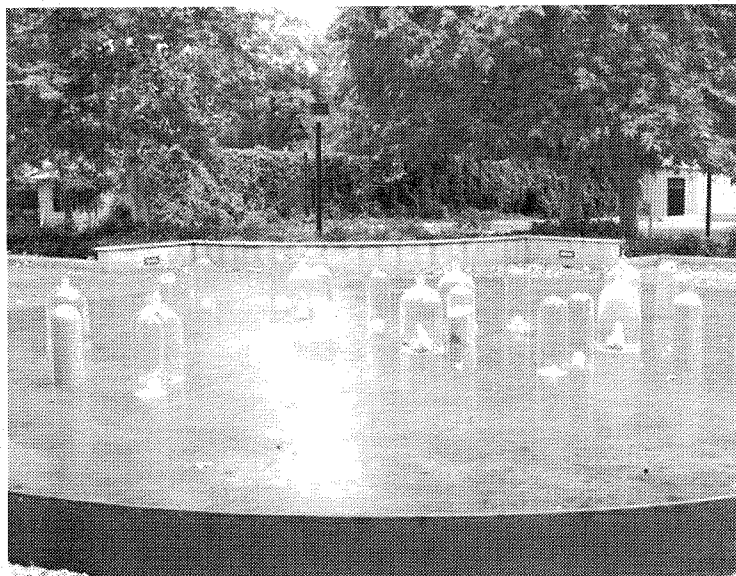
While one senior member of the audience wondered why Goodstein doesn't just fly away on a rocket ship if he really believes his prediction, many walked away with a deeper sense of the need for new energy and a desire to reform our oil-based economy before we run out of gas.

Continued from Page 1, Column 5

and praises the team's upbeat attitude. "I feel in terms of individual ability, we have no single superstar player, but we have good team dynamics and positive players." Freshman goalkeeper Elliot Pallet has been especially stand-out with scrappy performances of 10-plus saves in losing efforts and also two complete game blankies to his credit.

Freshman midfielder Brandt Belson describes the overall more pleasant atmosphere of Caltech soccer in comparison to his high school career. "There's less competition between players. People aren't hurting each other to get a starting spot." Both he and Chan cite the availability of head coach Uribe and the assistant coaches as key reasons for the team's success. Captain Zac Dydek's has anchored the team both on the field as stalwart center defender and off the field as a vocal motivator.

Whittier beware: the ambitious Caltech team looks to cap their upstart season with one final win for the home crowd, bringing their total to a historic three-win mark.



L. Tran/The California Tech

Stellar Mapping, by Lita Albuquerque, is the second sculpture on display at Caltech as part of the Tender Lands project.

## Student Artists to Get Help From McMillen

Continued from Page 1, Column 3

Mapping, located near Avery House, by Lita Albuquerque. Stellar Mapping, an exhibit involving bell jars holding various blue clays, red balls and half-spilled flasks, may initially appear nonsensical.

Dorota Korta, the undergraduate representative to the Arts Committee, explains, "I hope that people go see their works and consider them for a while, before making a hasty judgment such as 'Oh, it's another ugly art piece.'" After students have thought about the exhibits, Korta hopes that the exhibits "become a topic of intelligent conversation on campus."

Lita Albuquerque is an artist known for her innovative installations and sculptures. Many of Albuquerque's works deal with humans and their role in the cosmos. Albuquerque was born in Santa Monica and while many of her pieces are in California, she has won numerous international grants and art awards.

The Artist in Residence program also begins this month. Catherine Jurca, Master of Student Houses, is organizing an opening reception on October 19. Jurca notes, "I liked the idea of hosting this reception to make it possible not only for students to meet Michael McMillen and learn more about his work, but also for students who are interested in art to meet one another."

Students will be able to visit McMillen's workshop, located in the sub-basement of Moore and create their own pieces with his help. Melissa Slein, Administrative Coordinator for the Arts Committee, explains, "The program hopes to broaden students' experiences and education at Caltech and provide an outlet for creativity for those students interested in creating their own artistic work. The project will serve to educate all involved and set a precedent for later projects." McMillen will be in residence for three terms. There will be a website with more information soon.

Michael McMillen was chosen from a pool of artists who were interviewed by the Art Committee during January 2004. Famous for his constructions involving fabrications from discarded objects, McMillen has been exhibiting his art since 1976. The Moore Hufst-edler Fund is providing the funding for the Artist in Residence program for this year.

The last Artist in Residence was George Rhoads. Ten students worked with him and the students' works were displayed at the Red Door upon their conclu-

sion. Slein describes, "It was a successful project, though short, but students and artist enjoyed the experience."

The two exhibits for The Tender Land are funded by 1% of the cost for the Broad Center of Biological Sciences. Pasadena Law requires that a portion of construction costs for certain buildings be set aside to fund art for the general public. Previously, this requirement was to be satisfied by a structure titled Vectors by artist Richard Serra, but the Caltech community ultimately decided against the proposal. The art committee proposed that Caltech's involvement in The Tender Land would be a good alternative to the Vectors project.

The Tender Land formally ends January 31, 2005, although Caltech's exhibits will be taken down later. More information about the exhibits can be found on informational displays near them. "I hope that students will take advantage of its offerings just as they would any of the great art opportunities that the Los Angeles region as a whole offers to them," encourages Jurca. Students who are interested in more art events can find other events hosted by the MOSH. The MOSH is sponsoring a trip to see Bizet's Carmen at the Los Angeles Opera on October 22<sup>nd</sup> and a visit to an important impressionism exhibit in November.

Also, be sure to visit the Field Laboratory tomorrow, October 19, for some supposed changes. It's rumored that some door just might be open!

## Soccer Team Hopes To Add Home Win



L. Tran/The California Tech

Midfielder Hatem Helal tackles a Pomona player as Mario Roa moves in to steal the ball.

### The California Tech

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## Sports: Volleyball Wins A SCIAC Game, Soccer Loses Close Match

By MIKE RUPP

### Athlete of the Week:

#### Men's Soccer's Elliott Pallett

The 5-8 Freshman from Houston, Texas had two tremendous performances for Caltech this past week, anchoring an improved Caltech defense. Pallett had an astonishing thirty-one saves in two matches, for an absurd 15.5 saves/match for the week.

This included a 17-save effort against Occidental College that held the Tigers to just two goals. Against Pomona-Pitzer, Pallett had 15 saves, holding the Sagehens to just two first half goals. For the season, Pallett has 86 saves in just 11 matches. He's already led Caltech to two victories this season, doubling the team's total winnings from last year.

This is the second time in three weeks Pallett has been named Caltech's Athlete of the Week.

### Women's Volleyball wins first SCIAC game of the season; R. Streit leads offense

Caltech's Women's Volleyball team picked up its first win in a SCIAC game of the season this past Saturday, winning the second game of their match against the University of Redlands, 30-25, before losing the match, three games to one.

Sophomore Outside Hitter Rebecca Streit lead the team with 10 kills and 10 digs. Freshman Setter Sarah Stidham had 26 assists. It is the first win in a SCIAC game since the team took a point from Redlands last season, a year and two days before Saturday's match.

Earlier in the week, the team suffered sweeps at the hands of Whittier College of the SCIAC and visiting Benedictine University from Illinois.

For the week, Streit led the

team in kills and in kill-percent-age. She was second on the team in blocks and service aces, and third in digs. Senior Outside Hitter Kristen Zortman and Senior Middle Blocker Delia Davies were tied for second on the team in kills and first in blocks. Streit's twin sister, Outside Hitter Elizabeth Streit, led the team in service aces.

The team takes a break from its SCIAC Conference schedule this week, and will play Life Pacific College Tuesday night at the Braun Gym. The match begins at 7:30 PM.

### Men's Soccer loses close match to Occidental; Pallett dominates

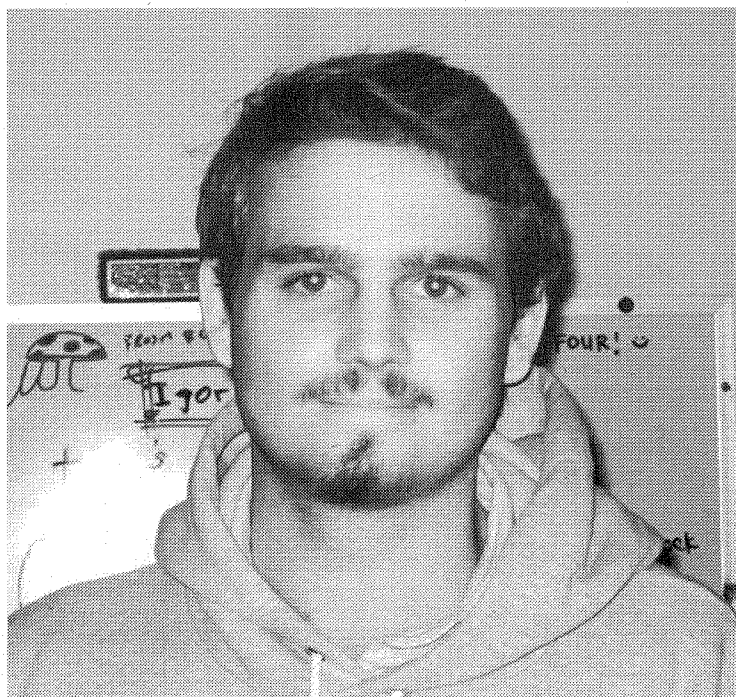
The Men's Soccer narrowly lost

to Occidental College on Wednesday, losing 2-0 despite some brilliant goalkeeping by Freshman Elliott Pallett, who had 17 saves against just those two goals.

Against Pomona-Pitzer, the team struggled. After holding the Sagehens to two goals in the first half, Pomona-Pitzer came roaring back in the second half with seven goals, leading to a 9-0 Caltech defeat. Pallett was again a bright spot for Caltech, however, with an amazing 15-saves performance. That kept the game close until midway through the second half.

The team's next match comes this Wednesday at home against La Verne.

Keep up to date with us online at [www.athletics.caltech.edu](http://www.athletics.caltech.edu)



T. Ma/The California Tech

Elliott Pallett has been named Athlete of the Week for the second time this season. As goalie of the soccer team, his outstanding performance includes 86 saves in 11 matches.

## Soft and Cuddly: The Way the Frosh Like It

### The Freshman Rant

By ANDREW KOSITSKY

Some like it rough. Some choose to abstain. But most freshmen at Caltech like it soft and cuddly. Stuffed animals play a role in over 70 percent of these first-years' lives, and they're not ashamed of it.

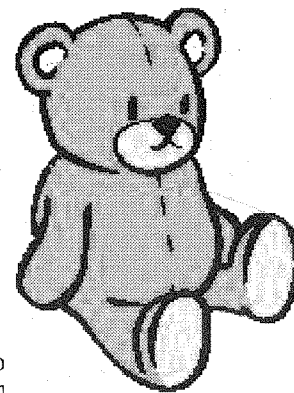
"Stuffed animals are incredibly important to me and have been for all my life. When I was five, my parents stood in line for about six hours to give me a teddy bear when we barely even had enough food," explained a particularly bushy frosh.

"When I was coming to Caltech, I accidentally left two my stuffed animals on the airplane. Luckily, my parents were able to pick them up at the airport when the plane returned to Chicago." Although this particular frosh seemed to have a stronger attachment to his plush friends than Caltech students, his sentiments were echoed throughout the freshmen class; the stuffed animals provide a happy, familiar face in an otherwise strange world.

Still others wish to get more or larger stuffed animals to continue habits originally started at home. "I have a stuffed animal here, but I am thinking of getting a larger one. It's not quite large enough to sleep with," commented a Caltech girl. "I thought of trying to find a Caltech guy, but this way I don't have to deal with him or clean up after him."

All in all, 52 percent of all freshmen responded that they had


stuffed animals and were content with their cuddly friends. 24 percent missed the stuffed animals they left home or definitely wanted more stuffed animals. The remaining 24 percent replied that they neither had nor wanted plush friends. One such student responded, "I left my stuffed animals at home, and I don't miss them. I still respect people who do have stuffed animals; they're just not for me."



The question of why young Techers hat they need an nate, but still very friend probably ething to do with rity and security. ny new students here at Tech find themselves in a world distinct from any they have seen before. Having a semblance of e they left behind

allows them to better adjust to this new environment. The existence of a constant between life at home and life at Tech can also operate as a link to sanity and emotional stability. In a few cases, however, the motives behind the stuffed animals were slightly more sketchy. "Why do I have stuffed animals? To get girls of course!" grinned an apparently lonely frosh.

Whatever their reasons for having stuffed animals, just over 75 percent of freshmen either have or desire a stuffed animal. From every house the message is the same: soft and plushy is how the freshmen like it!

  
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# Memorial Service Set to Honor Caltech Nobel Laureate Ed Lewis

By ROBERT TINDOL

PASADENA-- A memorial service will be held at 2 p.m. on Monday, October 25, in honor of California Institute of Technology biologist Edward Lewis, winner of the 1995 Nobel Prize for his work on how genes regulate the development of specific regions of the body. Lewis, 86, died July 21 after a long battle with cancer. The service will be held on campus in Beckman Auditorium.

A member of the Caltech faculty from 1946 until his death, Lewis spent his life working on the genetics of the fruit fly, with special attention to the fundamental ways in which the genes relate to embryonic development. The work had profound implications for a basic understanding of the genetic regulation of development in humans.

In a book published on Lewis earlier this year, author and long-time collaborator Howard Lipshitz wrote that Lewis's scientific research was "the bridge linking experimental genetics as conducted in the first half of the 20th century, and the powerful molecular genetic approaches that revolutionized the field in its last quarter." Lipshitz also lauded Lewis's much less widely known work on the understanding of radiation and cancer, and the closely related issues concerning nuclear-weapons testing policy.

Born May 20, 1918, in Wilkes-Barre, Pennsylvania, Lewis as an adolescent became interested in the genetics of the fruit fly, *Drosophila melanogaster*, which was already being touted as an excellent animal for research by Caltech's Thomas Hunt Morgan. Lewis performed genetics experiments on *Drosophila* while just a freshman in high school, and after taking a bachelor's degree in 1939 at the University of Minnesota, came to Caltech for a doctorate and remained at the Institute for the rest of his life, save for four

years in the U.S. Army Air Force during World War II, when he worked as a meteorologist.

Lewis published several research papers while still a college student, and soon after the war was a recognized expert in the field of fly genetics. Returning to Caltech in 1946 as an instructor, he was named an assistant professor in 1948, earned tenure the following year, and became a professor of biology in 1956. He was named the Thomas Hunt Morgan Professor of Biology in 1966 and retained the chair until his retirement from active faculty duties in 1988.

In a campus article appearing in 1957, Lewis described his success in causing the flies to mutate with four wings (they normally have two). "We now have a working model for picturing the genetic control of development," he said. His prognostication was indeed correct, and nearly four decades later the Nobel Committee, in awarding Lewis the Nobel Prize in physiology or medicine, cited his triumph in identifying and classifying "a small number of genes that are of key importance in determining the body plan and the formation of body segments." The Nobel Committee also lauded Lewis for his discovery of "how



courtesy of <http://nobelprize.org>

genes were arranged in the same order on the chromosomes as the body segments they controlled."

In the same article, Lewis discussed his good fortune in becoming an active geneticist at a revolutionary time in biology. After the war, the gene was still treated as an abstract entity because the techniques needed to ascertain its molecular nature were yet to be developed, he explained. "You could begin to try to see how a gene is constructed, even though DNA hadn't yet been determined to be the hereditary material. The laws of genetics had never depended upon knowing what the genes were chemically and would hold true even if they were made of green cheese."

Although the modern techniques of molecular biology were yet to be invented, Lewis was never reticent about using novel methods to better understand the genetics of the fly. He created his four-winged mutants by bombarding the flies with X-rays, thereby playing a key role in discovering and explaining the role of homeotic genes--that is, 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," as geneticists say, because the genes are similar in all organisms and play a role in the development of all animals, from fruit flies to mice to humans.

"Ed was the bridge between the pioneers of *Drosophila* work--Morgan, Bridges, and Sturtevant--to modern developmental biology," said David Baltimore, president of Caltech and also a Nobel Prize-winning biologist. "Ed saw that even a lowly fruit fly could be a key to understanding the mysterious process of how a fertilized egg turns into a fully developed organism."

# Making Our Campus Disease Free: Disinfecting the New Frosh Class

By TONY FALK

When you think of frosh, what is the first thing that comes to mind? Small? Annoying? People whose spirit has not yet been crushed by the great evil that is Tech? However, I bet one thing that doesn't come to mind is something that should: Disease-bearing. That's right, I blame the new frosh for the fact that I personally, and many others that I know, have taken ill in the past week or so.

Clearly, sickness happens for a reason, because no one believes the people who claim that there are tiny "creatures" floating around and infecting us somehow. That's just silly. So I thought about what has changed recently. First I thought about classes, but I know that isn't the case. I rarely attend them, and anyway, I never got sick from classes last year, and neither did the sophomores above me back then. Then of course there are problem sets, but again they wouldn't have caused me to get sick! What about a change in weather? No chance that this is

the problem, since it's California. Even when the locals think it's "freezing" those of us from the Northeast or Midwest have the sense to realize that it isn't actually cold, just a little bit chilly at night. Obviously not nearly enough to make anyone sick, or no one would be able to survive the winter back home.

So once I've run through my extensive list of things that have changed, I'm left with only one logical option: Frosh. Last week they were still rotating prefrosh, and suddenly the cannon fires, they move into our houses, and I get sick. Clearly no coincidence. Frosh come from far away, bringing new diseases that we've not yet built resistances to, and suddenly they've flooded into our very homes, often without being disinfected first.

I know some houses clean their frosh first in the showers, or with pitchers of icy water, but this isn't enough. We need to have a school wide disinfection program, to make sure no frosh goes uncleansed so we can be safe. Here's what I suggest: First, we

heat up Millikan pond to about 90 degrees (in the Real temperature measure, American. By which I mean Fahrenheit). Then we fill it with some sort of disinfectant soap, maybe that pink stuff from the bathrooms. After that it's only a matter of luring the frosh into it. I suggest we send an e-mail out telling them the forms for placing out of Chem 3 are being handed out on the bridge, and then just push them in. Although it might be simpler to just hold something shiny over the water and watch them jump for it. Either way, once they're in we can just let loose a fire hose on them to wash the uncleanliness away.

Unfortunately this plan may not happen, as the school seems to want to avoid frosh getting chopped up in the whirling blades of death (the Millikan pond sculpture), so I'm also advocating a grass roots frosh cleaning campaign. This means everyone needs catch all the frosh they can and Lysol them (don't forget the eyes, there are lots of germs in there) and then give em a quick shower (frosh love scalding water). The

# ASCIT Minutes: Budget Surplus, Modular Housing

By CORINNA ZYGOURAKIS

ASCIT Minutes  
October 8, 2004

Present: Ann Bendfeldt, Ryan Farmer, Meng-meng Fu, Shaun Lee, Galen Loram, Kim Popen-dorf, Claire Walton, Corinna Zy-gourakis

Absent: Kelly Lin  
Guests: Toby Huang

Introduction:

1. Call to Order, 12:05 PM
2. All future ASCIT meetings this term will be on Tuesdays at noon on the Olive Walk. If you have anything that you'd like to bring to the BoD's attention, please email Galen Loram at [galen@caltech.edu](mailto:galen@caltech.edu) in order to be added to the agenda. However, you are free to stop by our meetings even if you don't email Galen in advance.

New/Open Positions:

3. Sign-ups for the following Student-Faculty Conference committees were posted from October 8 to 15:

Core Curriculum  
Workload, Student Morale, and Student-Faculty Interactions

HSS

Biology

Chem/ChemE

GPS

Ph/Ay/Aph

Math/App. Math

MechE/Aero

EE/ECE/CS

ESE/CNS/CE/Mat. Sci.

Money Requests:

4. Toby Huang and Ryan Farmer ask to take Prof. Gerard out to lunch at the Ath. Vote: 5-0-1 (Ryan abstaining)

Other Business:

5. Ryan Farmer reports that the Movie Chairs, Graham and Ryan Yoakum, gave him the names of new DVDs to purchase. He has ordered \$1700 worth of DVDs that will arrive soon.

6. Ryan also estimates a current budget surplus of approximately \$7500.

7. Galen calls a meeting to discuss how to allocate the ASCIT surplus. The meeting will be at 2:30 pm on October 8. Students with any suggestions are welcome at the next two ASCIT meetings at noon on Tuesday, October 12 or 19.

9. BoD discusses the possibility of a winter social event and welcomes suggestions from all students.

10. Kim Popen-dorf reports that trustees are worried about stewardship towards the houses. In

particular, they want a confirmed commitment from the students that they will take good care of the houses after the South House renovations.

11. Kim also notes that the students from the South Houses will, in fact, be moved to modular units during the renovations. 20 modular units have been ordered, including two for RAs and two for lounges. These modular units will be placed on the field north of Avery and the parking lot to the northeast of Avery, and the areas will be fenced in with card swipe access. Students will also be added to current housing in Chester, Del Mar, and Braun.

12. BoD ratifies Shu-Hao Zhang as a representative on the Educational Outreach Committee. Vote: 6-0-0.

13. BoD ratifies Ann Bendfeldt as a representative on the Core Curriculum Committee. Vote: 5-0-1 (Ann abstaining).

14. This term's club checks are out! You should email Kelly Lin at [kyl427@caltech.edu](mailto:kyl427@caltech.edu) with your name, club name, and mailbox code in order to receive your club's check.

Meeting adjourned 1:05 PM.

ASCIT Minutes  
October 12, 2004

Present: Ann Bendfeldt, Ryan Farmer, Meng-meng Fu, Shaun Lee, Kelly Lin, Galen Loram, Kim Popen-dorf, Claire Walton, Corinna Zygourakis

Introduction:

1. Call to Order, 12:05 PM

New/Open Positions:

2. ASCIT is looking for a new jamroom manager! The jamroom manager is responsible for keeping a key to and maintaining the room, as well as purchasing any new equipment. Sign-ups are posted outside of the Coffeehouse and SAC 33 and will be taken down on Tuesday, October 26, at 5 PM.

Other Business:

3. ASCIT appreciates thank-you letters from SWE, AICHe, and *The Totem* for their club funding and editorial appointments, respectively.

4. BoD discusses the organization of a BBQ before the soccer team's game against Whittier on Wednesday, October 20.

Meeting adjourned 12:15 PM.

real trick to this is to keep them isolated from unclean frosh until they're all clean. So remember, once you've caught and cleansed a frosh, lock it in somewhere (any room with a doorknob will do; frosh don't have opposable thumbs, as far as I know).

So get out and let's make our campus disease free again! Remember, wash your hands before and after meals, and after every time you go to the bathroom or touch a frosh.

\* Disclaimer: I don't actually think frosh are diseased. I just think they carry the disease in the parasites that live in their fur.

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# Exaggerated Threats of Disenfranchisement

By SIMON QUE

In recent months, groups and leaders within the Democratic Party have been active in preparations for the upcoming election. Their fear is that African American voters will be unable to vote or that their votes will not be counted, and are taking steps to avoid further incidents of "disenfranchisement." While their efforts to ensure a properly conducted election are certainly commendable, their focus is fundamentally flawed.

According to the news source *Agence France-Presse*, Donna Brazile of the Democratic National Committee Voting Rights Institute has said, "We will protect voters and make sure they are not discouraged at the last minute or disenfranchised because they are not educated on their rights.... We need to ensure every citizen he will be able to participate and ensure their ballots will be counted." Meanwhile, the website *Moving Ideas* ([www.movingideas.org](http://www.movingideas.org)) has pointed out that many voters are ignorant of the rules surrounding the election, and that such ignorance would negatively impact the choices they make. The U.S. Commission on Civil Rights gives such examples in its report on the 2000 Florida election, which lists various voter mistakes such as selecting multiple candidates or the wrong candidate on the confusing "butterfly ballots."

In short, many of these concerns are around whether voters are familiar with how the system works. Yet the system is still not that complicated. How hard is it to

follow that little arrow to the correct circle? All it takes for a voter to vote correctly is to be careful and to read up on the mechanisms of the election before going to the polls. That's really not too much to expect, and far less than what could be considered actual "disenfranchisement."

Other concerns surround intimidation and confusion. A manual published by the Democratic National Committee aims to help voters deal with such threats. DNC sources have reported said, "We all know the Republicans are going to try to steal the election by scaring people and confusing people." The manual tells local Democrats to publish literature to denounce "tactics that discourage people from voting," "place stories in which minority leadership expresses concern about the threat of intimidation tactics," and "warn local newspapers not to accept advertising that...contains false warnings about voting requirements and/or about what happens at the polls."

This advice in itself is reasonable and has the possibility of doing voters a favor. However,

it is also highly condescending. It seems to imply that voters are helplessly manipulated by individuals and organizations with malicious intent, and are unable to defend themselves. Discouragement from voting?

*"Much of the so-called disenfranchisement that we see today bears little resemblance to the disenfranchisement of Civil Rights Era vintage."*

That's not a sufficient criterion for disenfranchisement; a night of sleeplessness would do as much to discourage people from going to the polls. Voters are free to choose to fight against or ignore such obstacles. But while the manual tells local Democrats to do something for the people, it doesn't seem to give actual advice to voters. Here's some simple advice they could give: arm yourselves with the truth against lies and get some buddies to go with you. How hard is that?

While these organizers demand a better voting system, they fail to vocally address the issue of why some voters get discouraged or fooled in the first place. Why don't the people who walk away in the face of discouraging acts find friends to accompany them? Why don't the people who face the ballot inquire into whether claims about legal restrictions

are true? If there are people who would simply give up without a fight when confronted with these threats and lies, then it could be an indication of voter apathy--they don't even care enough to fight for their vote. This might be a social problem that needs to be addressed.

Much of the so-called disenfranchisement that we see today bears little resemblance to the disenfranchisement of Civil Rights Era vintage. In those days, many restrictive laws were set up to prevent blacks from voting. The poll taxes and literacy tests, for example, had the intent of actually preventing blacks from voting. If today's system contains complicated voter registration procedures that impede blacks, they are most likely the result of attempts by state and district bureaucracies to increase efficiency in processing millions of registration forms and ballots and not of malicious intent, no more ill willed than a night of insomnia.

To be clear, there most likely have been many instances of actual intents to disqualify votes, such as an incident in Nevada in which hundreds of registration forms (all of them belonging to registered Democrats) were allegedly torn up and thrown away by a private voter registration company. In a high-stakes election like this one, it is almost guaranteed that some will

manipulate the system to exploit others for their own gain, such as by spreading lies and threats. So the Democrats are right in bringing this issue to attention.

However, they neglect bigger concerns. The alleged mischief is still the mischief of a private group that can only influence the election; the county commissioner in Nevada can always kick it out of the election business and take steps to set things straight again. But it is the government officials in power who actually control how elections are conducted. They are the ones who can abuse their power by toying with ballots and then covering up their acts of wrongdoing, such as by silencing witnesses through extortion. They can send the police to harass voters under the pretense of investigating voter fraud. They are also the ones who enact and enforce laws that restrict voters and candidates. People who are concerned about real voter disenfranchisement should keep a closer eye on those in power rather than on discouraging circumstances, voter ignorance, or members of an opposing party.



courtesy of [www.gwu.edu/~action.html](http://www.gwu.edu/~action.html)  
DNC Chair Terry McAuliffe launched the party's Voting Rights Institute on May 1 in front of the U.S. Supreme Court.

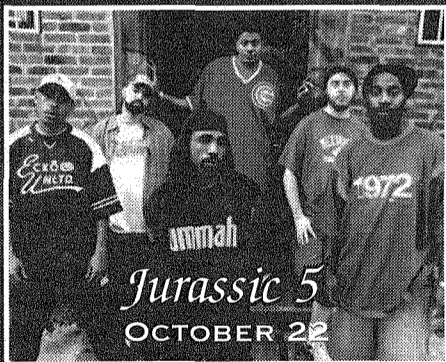
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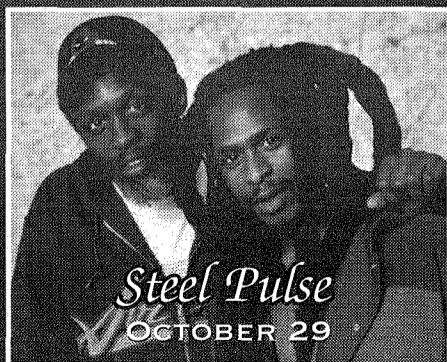
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# This Stinker Deserves to be Forgotten

By HARRISON STEIN

This, my friends, is a really bad movie. The surprise ending has become a staple in modern filmmaking as each year, a film such as *The Usual Suspects*, *The Others* or *Identity* bravely comes along and blows the audience away with an intelligent twist that enhances an otherwise decent movie. Unfortunately, society's obsession with these endings has led to a never-ending string of awful movies that try too hard to be clever, and September 2004 brought two such duds. Wicker Park could have been a poignant psychological thriller, but in the end it was undone by endless plot twists. Meanwhile, desperate to become 2004's *Sixth Sense*, a film defined by its clever, challenging and groundbreaking surprise ending, *The Forgotten* falls flat on its face.

Like most modern movies, Joseph Ruben's *The Forgotten* has an interesting premise and this should have yielded an interesting movie. Unfortunately, somewhere between point A and point B, the Julianne Moore vehicle falls off a cliff and makes no effort to climb back up. The first sixty minutes of exposition are rarely provocative, largely mind-numbing and consistently unsatisfying. The deus ex machina ending is both preposterous and incomprehensible.

It's hard to discuss the story without revealing important plot twists, but because these twists are so contrived and obtuse, I don't wish to dwell upon any (In other words, this review will have no spoilers). Julianne Moore plays desperate middle-aged Telly whose nine-year-old son Sam died in a plane crash a year before the movie begins. She is thoroughly unable to cope with her loss and solicits advice from a sinister-looking psychologist (Gary Sinise in one of his patented sleazy roles).

Once photos and videos of her late son disappear, she begins to suspect that someone is trying to erase her memories. She teams with Ash (Jude Law look-alike Dominic West in a career killing performance) whose daughter was killed in the same infamous plane crash. Ash initially forgets he had a daughter, but after seeing her paintings on his walls he



Julianne Moore and Dominic West in Revolution Studios' *The Forgotten*.

is overwhelmed with emotion and agrees to assist Telly. In the meantime, they meet up with superfluous characters including a good cop who meets a bad end, a random NSA agent, and a chilling fellow who thoroughly resembles T-1000 from *Terminator 2: Judgment Day*.

The acting is hardly superb, but in this colossal train wreck, the performance by Julianne Moore is the obvious highlight. We feel genuine sympathy for her down-on-her-luck character even if the screenwriters don't. Dominic West, who broke out as the memorable philanderer Fred Casely in the wonderful *Chicago* is given a dull, lifeless and underwritten character, but nevertheless proves he is a rising star by making the most of a black hole of a role. Sinise is unsurprisingly solid as the psychologist, but because he overacts in the first third of the movie, one of the ending twists is not as shocking as it should have been.

One reason *The Forgotten* fails is that it bases the first 80 minutes on the anticipation of a surprise twist in the last 10 minutes. Whereas *The Sixth Sense* and *The Usual Suspects* would have been high-class movies without impeccable endings, *The Forgotten* stumbles around aimlessly for more than an hour. The action scenes are poorly shot and the only scary moments are badly placed shocks that chill you for a split second, but leave no lasting impression. The dialogue is laborious and the action is too sporad-

ic to keep the viewer interested. Because the movie is so bad, it must rely on a clever ending to save it. While a good ending might have salvaged the film, the writers decided instead to give us an unforgivable twist that turned into an unmitigated disaster.

Perhaps the only good thing to say about *The Forgotten*, the worst movie I've seen all year, is that it is not nearly as bad as last year's worst film, *Dreamcatcher*. However, the pictures are similar in that they both have great premises compounded with decent acting, ruined by idiotic plot twists and ludicrous resolutions. It is never a good thing when a movie that calls itself the next *Sixth Sense* ends up as the next *Dreamcatcher*. Fugettaboutit!

\* out of \*\*\*\*



## Ballroom Dance Club

The beginner international style ballroom class is held Sundays and will continue until November 28th. This class will cover four dances and will be taught by CBDC guru Derrick Bass. Instruction is from 4:30 to 6:30 pm in Winnett Lounge and as always no partner or prior dance experience is required! Cost is \$50 for the full eight-week series for Caltech students and \$80 for the series for non-students.

Our intermediate international style class is taught Thursdays by Caltech's own Tudor Stoenescu and Gwyneth Card. Class begins at 8 pm in Winnett Lounge; the first hour will cover standard and the second will cover latin.

The series runs eight weeks and the cost is \$25 for Caltech students, \$40 for non-students.

The Ballroom Dance Team will also be offering Team Practice, held each Tuesday in the Braun Gym multipurpose room from 9 to 11 pm. The practice will feature the assistance of a professional coach so that team members can get advice and tips to improve their dancing. Team membership is required and there is a \$5 fee to enter the gym if you do not have Caltech/JPL issued ID.

## Women's Center Events

*Student Programming Board*, Oct. 18th, 12-1pm, Women's Center. New undergraduate students are invited to participate in the Women's Center Student Programming Board. The SPB meets regularly to develop and imple-

ment programs of interest to the undergraduate women's community. SPB members also participate in outreach and admissions activities throughout the year. If you'd like more information, please contact Jennifer Cichocki mailto: [jcichock@studaff.caltech.edu](mailto:jcichock@studaff.caltech.edu)

*International Women's Self-Defense Workshop*, Oct. 19th, 7-9pm, Women's Center. Have you ever been in a situation where you felt uncomfortable and wished you knew the appropriate communication skills? Have you ever felt threatened by a situation and did not know what to do to feel more secure and confident? The Women's Center and International Student Programs offices are co-sponsoring this event to help you to overcome the communication barriers you may face in these types of situations. This workshop will introduce cultural differences in communication styles as well as present strategies as to how to present yourself and your feelings more assertively. Registration required! mailto: [wcenter@studaff.caltech.edu](mailto:wcenter@studaff.caltech.edu) (co-sponsor w/ ISP)

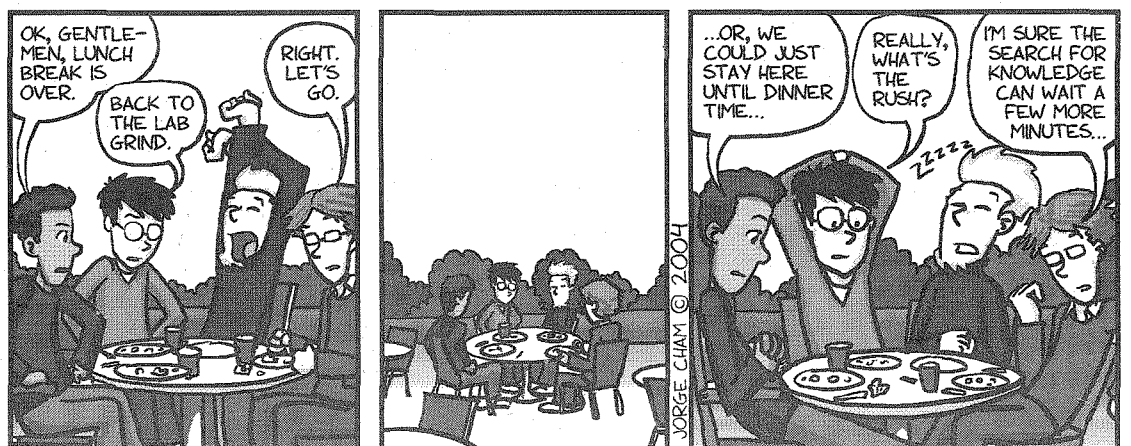
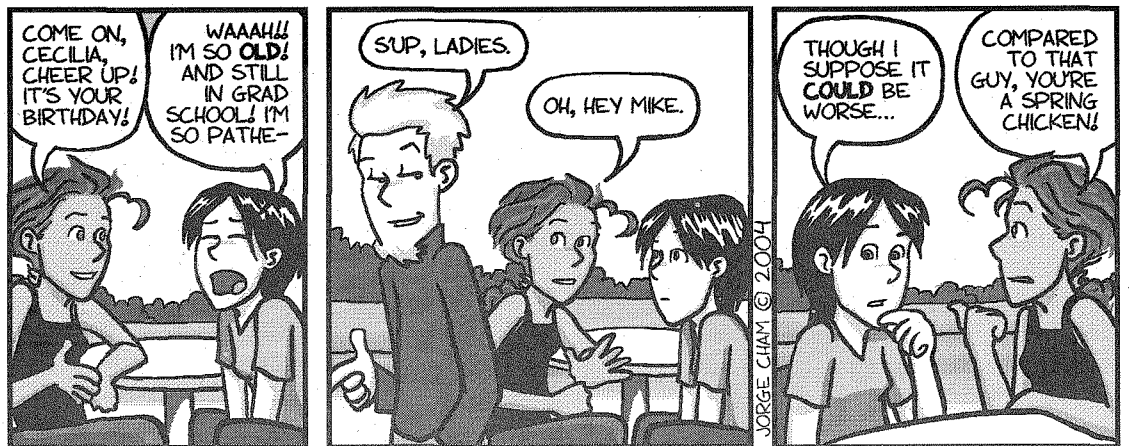
*Reel Women Movie Series - Votes for Women*, Oct. 14, 12-1pm, Women's Center. Film & Presentation: *Votes for Women*. Chronicling the 72-year long struggle, *Votes for Women* begins in Seneca Falls, New York and moves through the 1920 ratification of the Constitutional Amendment granting women the right to vote. Building on the history of women's struggle to obtain the vote, Sharon Mullenix, President of the Pasadena League of Women Voters, will discuss the important role of women's vote in the upcoming presidential election.

## PILED HIGHER AND DEEPER

by Jorge Cham



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takes great pleasure in announcing its Fall 2004 Fellowship Awards to California Institute of Technology graduate students.

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Graduate Fellowship Award of up to \$240,000 in the Applied Physical Sciences.

The Hertz Foundation would like to extend its congratulations to California Institute of Technology for attracting these Fellows to their graduate programs.

See

for more details.

# Liu, Gabriel Face Off in Intense California Legislature Election

By KEVIN BARTZ

Unpacking their differences on issues ranging from education to immigration policy, incumbent Democratic Assemblywoman Carol Liu squared off with Republican challenger Lynn Gabriel last Wednesday in a crowded lunchtime debate at Pasadena City College, headlining an Assembly race targeted by both parties as one of the state's most competitive.

Though the debate had no stated focus, the questions, which came from a PCC faculty member, the school's Democratic student organization and members of the audience, focused intensely on sagging performance and rising fees in the state's community college system. Debate centered on As-

The candidates also emphasized their differences on California's well-known three-strikes law, a hot-button issue again raised to prominence by Prop. 66, a November ballot initiative that would limit three-strikes sentences to offenders whose final strike comes from a list of "violent" crimes prescribed by the measure. Though she said she has not yet decided on Prop. 66, Liu cautioned against giving criminals life sentences "for stealing a slice of pizza." Gabriel came out against the initiative, maintaining that she's "not in favor of reducing the three-strikes law in any way, shape or form."

Responding to a question on the DREAM Act, a pending Congressional bill that would all but qualify the children of illegal immigrants as legal residents, Gabriel sidestepped the issue, reiterating that "if you're here on a legal visa or pass, I support giving you all the help available." Liu was not given the chance to respond.

On personal matters, Liu emphasized her accomplishments, while Gabriel challenged her commitment. "I come from a background of many skills," held Liu. "I've learned education through many years at the grassroots level." But Gabriel called Liu "out of step. She has demonstrated time and time again that she will vote with her friends

instead of you."

With both candidates speaking in a dry, rather wonkish monotone, reaction was varied to Wednesday's debate. Democratic activist Cheryl Conel called the debate "very informative," and said she thought Gabriel had won the debate, though she will vote for Liu. But Eli Sizlewitz, the head of PCC's Democratic student group, named Liu the victor.

A two-term Assemblywoman and former La Canada-Flintridge councilwoman and mayor, Liu is up for her third Assembly run, while Gabriel is a

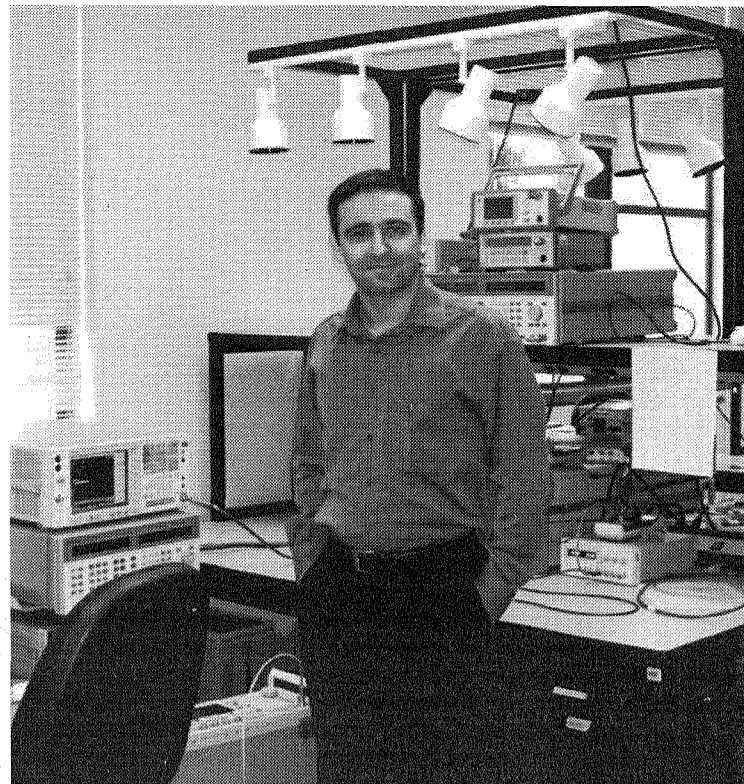
first-time politician and 30-year Pasadena resident.

Pasadena is indeed the center of gravity in California's 44th Assembly District, a roughly triangular region along the edge of the San Gabriel foothills, running from La Canada in the north to Eagle Rock in the west all the way to Arcadia and Duarte in the east.

Democratic support in the 44th lies historically in the working-class communities in La Canada-Flintridge and Altadena, while precincts in Pasadena and South Pasadena are more inclined to pull the lever for Republicans. That tendency was underscored in last March's primary, when Gabriel, a Pasadena optometrist, eked out a 1,900-vote win over Dave Wilcox, a Caltech-educated aeronautical engineer doctorate turned business owner.

But at last Wednesday's debate, both candidates vied for the title of hometown favorite. Gabriel is a PCC graduate, while Liu served as president of the PCC Foundation Board in 1984. "I have a real, very strong feeling for the importance of the community college system," said Gabriel. "PCC prepared me to go toe-to-toe with my classmates. I got a great education here."

Liu too emphasized her connection with educators over her 20 years in La Canada-Flintridge. "I come from a background of many skills," said Liu. "I've learned education through many years at the grassroots level and I would bring that knowledge to another term in the Assembly."



Dr. Hajimiri and his graduate students are already drawing up improvements for their innovative chip.

## Antennae, Integration Planned for New Chip

Continued from Page 1, Column 5

of the wireless network and setting the goal of breaking the gigabyte per second transmission rate. In order to accomplish this, they needed to transmit a more intense, focused signal.

"We needed a laser pointer, not a light bulb," said Hajimiri, explaining that the radar system used at the moment transmits a signal in all directions, much like the light bulb. This, however, is inefficient and a higher transmittance rate would require a more efficient signal.

The radar system which Hajimiri and his group integrated onto the silicon chip differs from the classical radar system in many ways. Hajimiri's radar system is structured differently and is integrated onto a chip, while the classical radar system is not integrated. Furthermore, the new radar system generates multiple local oscillator frequencies, which are stronger than the frequencies used by the classical system.

At this moment, Hajimiri is designing the next generation radar chip. He intends to improve this new chip by including the antennae on the chip, having all the functions be integrated so the chip would be larger and using a higher frequency so that the chip would operate closer to the fundamental limit.

Hajimiri suggested that maybe the radar chip would be licensed to a company in a couple of years.

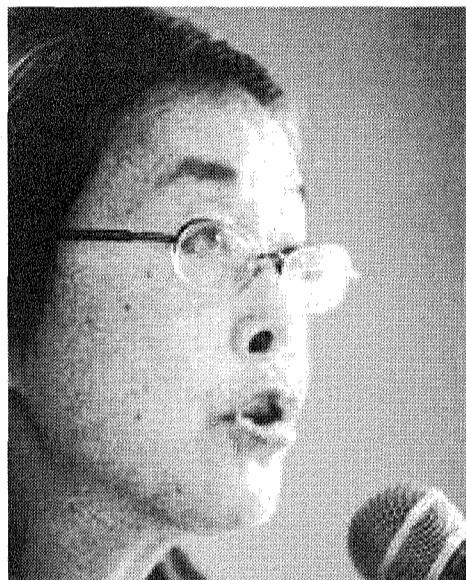
However, he does not intend to commercialize it himself. "I wouldn't be interested in quitting my job here and going to run a company," said Hajimiri, though he did not reject the idea of having a remote role in the company.

Hajimiri also did research on power amplifiers on silicon, which led to the founding of a new company called Axiom MicroDevices. Headed by former students of Hajimiri and Electrical Engineering Professor Dave Rutledge, the technology is being used for wireless.

As for winning the award, Hajimiri acknowledges the effort of his team of graduate students. "I feel honored and I appreciate it very much. It is a very fulfilling experience. All my former and current graduate students share the award. This is like a point of culmination of all the effort of the past years," said Hajimiri.

The TR 100 is printed in the "Technology Review," which is Massachusetts Institute of Technology's magazine of innovations. In its fifth year now, the award has gained a prestigious reputation. The decision as to whom the award would go to is decided by a panel of judges from various schools and industries.

In addition to being placed on the TR 100, Hajimiri was also offered a Fellowship of the Okawa Foundation.



Courtesy of www.pcc-courieronline.com

Incumbent Democratic Assemblywoman Carol Liu is seeking a third term.

sembly Bill 2477, the centerpiece legislation of Liu's campaign which spells out specific textbook cost-saving measures for community colleges.

"We can't stop publishers from publishing new editions," said Liu, "but we can be reasonable. My bill is the first step in bringing the huge cost of attending college under control." Authored by Liu, the bill skated smoothly by the Assembly and Senate last March and Republican Gov. Arnold Schwarzenegger signed it into law shortly after. Liu called the passage a hallmark of her bipartisan devotion to education.

Gabriel, however, called AB 2477 toothless. "AB 2477 has done absolutely nothing for you. It's a great thing for a press release, but a false hope," she said. While the bill does enumerate specific ways to save costs on textbooks, such as encouraging publishers to "unbundle" enclosed CD-ROMs and workbooks and urging faculty to switch textbooks no more than once every five years, all of AB 2477's provisions remain at the recommendation level, with no guarantees.

Both Liu and Gabriel promised to fight for checks on community college tuition increases, but whereas Liu pledged to roll back a recent Schwarzenegger-approved fee hike that put annual costs above \$4,000, Gabriel hawked a more general increase-capping proposal. "Even with the increase, the cost is still the lowest in the nation," said Gabriel. "But I do think parents should know ahead of time what the costs will be. I think there should be a cap on fee increases."



Courtesy of www.pcc-courieronline.com

Republican challenger Lynn Gabriel has lived in Pasadena for 30 years.

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Email: joshua\_bornstein@infosys.com



L. Tran/The California Tech

A security officer leaves to patrol campus. Campus security is much better than LA county statistics.

## Moon Festival Marks Celebration of Unity

By ZHIYUN GUAN

An evening of cuisine, comedy and culture greeted the Caltech community at the Moon Festival party in Winnett Lounge on Saturday, October 9. Planned and hosted by Caltech-C, the Caltech Chinese Association, the event celebrated one of the most significant traditional Chinese holidays.

Sometimes known as the Mid-Autumn Festival, the Moon Festival is on August 15 of the Chinese lunar calendar. According to graduate student and Caltech-C member Changling Pang, the moon is the most round at this time of year and its shape symbolizes unity and family.

For the Chinese community on campus, the Festival is a time for students to think of their families as well as "meet each other in the big family" at Caltech, Pang said. All those with an interest in Chinese culture were welcomed at the party, drawing a crowd of all ages.

The party began with an ample Chinese buffet, complete with mooncakes, the essential ingredient of any Moon Festival celebration. A traditional Chinese dessert, the round mooncakes resemble the moon in shape and contain a sweet filling such as red bean or lotus seed paste. As a testament to their popularity and tastiness, the mooncakes soon disappeared from the buffet table.

After dinner, the entertainment commenced as MCs Fei Wang and Xiaoke Zheng announced each event with quick-paced comic dialogue. The hilarity continued as Changling Pang and Mo Li performed a humorous skit, putting a new spin on an ancient Chinese lore. Mr. Pang, playing the legendary Lady From the Moon with enthusiasm, surprised Mr. Li's character as he waited for the beautiful lady at the airport.

Although the dialogue was in Chinese, the strong visual cues, including a song and dance from Mr. Pang in full costume, kept the laughs coming even from audience members who did not speak the language.

In addition to providing fun and games, the Caltech-C also invited students new to the Caltech Chinese community to introduce themselves and meet new people. With the encouragement and applause of the audience, 22 new undergraduate and graduate students from China spoke about themselves and were welcomed into the community. A balloon-popping race and ice cream eating contest for the new students then followed, kicking off their journey at Caltech with cheer and laughter.

A variety of distinctive performances followed, showcasing the talents of the actors and art-

ists while providing something for every taste in the audience. In colorful costume, Yichun Sun from UC Irvine and Qian Wu from USC performed the dance "Tibet Plateau" with kinetic vitality. Comedy was again the focus of a dialogue between Xiaoke Zheng and Ling Zheng, as they recounted an unusual game of "Mafia" while exchanging allusions to Chinese literature, culture and occasionally Newton's first law of motion.

A mellower mood descended as Caltech-C members performed four Chinese songs, filling Winnett Lounge with music. According to DJs Yang Qiang and Lu Xiao, the selection of songs were traditional and romantic, meant to invoke familiarity.

Later, audience members joined in the fun as Min-Shr Lin taught them the game "Catch me if you can". In the game, each person tried to catch the finger of the person seated next to him on Lin's cue. The simple task proved more difficult than it looked, often with hilarious results.

Laughter was also the name of the game in the final skit, a parody of the Chinese blockbuster "House of Flying Daggers". A large cast of students came together in the elaborate send-up of the film, which was later shown at Moore Hall. The farcical tale of love and danger was followed by two Chinese duets and the party finally concluded when Xiaoke Zheng was "thrown into jail" and his fellow MC Fei Wang went off to "bail him out".

Undergraduate Wei Li, who was among the new students welcomed at the party, played the narrator in the skit. While he rehearsed the act five times in the past two weeks, Li found it a fun experience. "It was not hard work because we enjoyed the work," he said.

Fei Wang, also an actor in the skit, found her work rewarding as well. Every person involved in planning the party put in immense effort, she said and the script of the skit was changed and improved multiple times during rehearsal. The most valuable part of the experience, Wang said, was that "everyone became very good friends when they didn't know each other before."

Guests were also impressed with the sense of friendliness and community reflected at the party.

"I'm surprised that there is such a huge community," said undergraduate John Shen. "There are families here, [undergraduate] students, grad students; everyone from Caltech is here. And the food is good too," he added as he enjoyed a mooncake.

## Card Access, First Aid Training Among Security Improvements

By SONIA TIKOO

Every fall, the California Institute of Technology welcomes hundreds of new students, faculty, researchers and other affiliates into the Caltech community. With these fresh faces comes a vast set of fresh personalities, experiences, property and ideas, contributing to the dynamic, cutting-edge nature of the Caltech experience. Naturally, adaptations must be made to university offices and procedures to accommodate new trends and the approximately 31 employees of the Caltech Security Department is no exception to the rule.

The past few years have brought a variety of changes to the programs Caltech Security offers in service to the university, most notably in emergency medical care. Caltech has recently acquired CIT<sup>2</sup>, a medical care program in partnership with St. Luke's Hospital.

Another significant medical response reform lies in the development of the First Responders Certification course, which is available to security personnel as well as any other interested parties in the Caltech community through the Office of Staff Education and Career Development.

This course, which was first instituted in January, provides medical training similar to those received by emergency medical technicians, including lessons regarding the Emergency Medical Services System, legal and ethical issues, anatomy and function of body systems, lifting and moving patients, patient assessment, CPR and circulation, medical emergencies and triage and special rescue situations. Graduates of the course official receive American First Responder Certification and designation patches.

"All the officers in security are trained in basic first aid and CPR—the minimum for responding. The first responder program takes it to another level," elaborates Gregg Henderson, Caltech Chief of Security. "First responders enable us to respond to more severe situations. For example, we had an incident a while back by the new parking structure. A woman had a seizure as she was turning into the lot and ran into a planter. When we responded, a first responder was able to stabilize the situation until the fire department came with the paramedics. In doing that, we are able to obviously respond as opposed to your basics of stemming bleeding. That coupled with our ability to communicate directly with the Pasadena fire department, which has a Caltech radio, allows us to give them real-time information, which makes a difference."

Caltech Security is also working on improving its emergency contact system. Approximately 18 emergency telephones cur-

rently inhabit various locations across the Caltech campus, but as Caltech expands, so will this network. With the construction of a new three-level underground parking structure south of California Boulevard comes the addition of six emergency phones and another phone was recently added near the undergraduate Student Activities Center. In addition, Caltech is currently in the process of replacing the old emergency phone terminals with newer models.

In order to improve the safety of Caltech community members traversing the campus at night, Security is also taking part in lighting surveys, in which personnel check the campus for areas in need of illumination. Another way security aids in protecting night pedestrians is by granting escorts for those who call the security office and request that someone accompany them on their late-night passage across campus.

In response to a query about pick-up delays, Henderson responds, "Security does it as quickly as they can; it depends on when they call and the surrounding circumstances. Our first priority is an emergency. Giving a time window is probably better, but we have to respond to an emergency before. Leave contact information for security to call back if there's a delay, like a cell phone number. The other thing is, you don't want to stand on the sidewalk late at night. Stay inside until the officer arrives and comes in."

Securing campus buildings and the people and properties indoors is also a top priority for improvement. "One of the main things is the ability to greater secure the campus," commented Henderson. "The card swipe system is one example—limiting access to those who really need access."

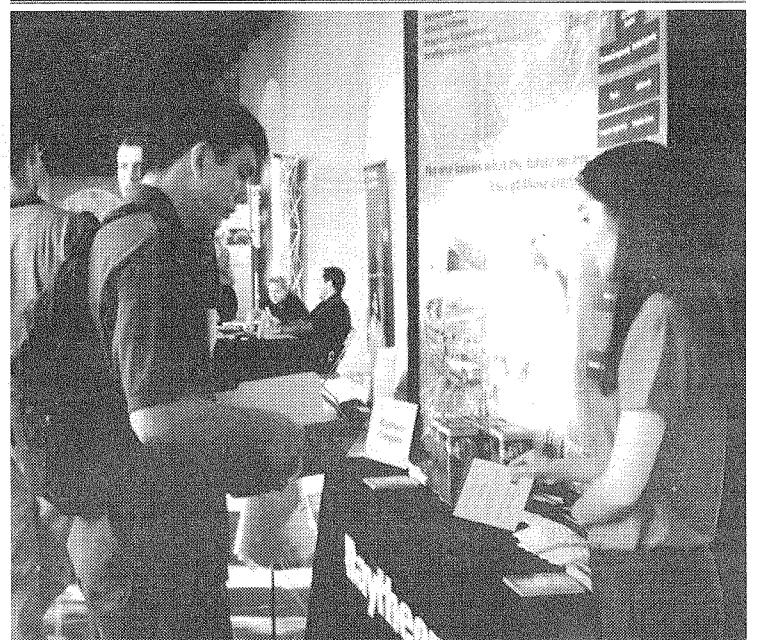
The Caltech Honor System, in principle, grants students, faculty and research personnel 24/7 ac-

cess to many of the facilities on campus, but over the years, the threat of theft and unauthorized persons entering various buildings and residence halls is adding to the need for a digitized system.

The campus card system is slated to be first installed in the undergraduate "South Houses" in conjunction with their upcoming renovations in June 2005. Card access will be installed on all entrances and a time schedule will likely be arranged with the house presidents on what time schedule would be appropriate to activate and deactivate the card system. Henderson acknowledges, "Electronic access could be tedious if a card is lost, but cards can be replaced. Temp cards can be issued." No movement to replace the south master key system with card swipes is in currently in existence.

"Overall, violent crime is non-existent—at least with what's reported to security. Compared to other locations in the L.A. area, we're very secure. Property crime is where people don't take it to heart. Close the door or lock it. Don't leave things in a common area for an extended period of time," Henderson points out, as theft is the most prevalent crime on campus. "It's simple. Be responsible about securing your property. If you have property you're moving don't leave it in the hallway. Common sense kinds of things." He advises undergraduates, "I realize that this is your residence—you're part of the house—but these houses are open."

General information regarding the security office can be found on the office website. To report an emergency, those involved are urged to call (626) 395-5000. For routine inquiries, escorts, or to file incident reports, the correct number is (626) 395-4701.



L. Tran/The California Tech

A representative from Raytheon explains the opportunities for Caltech students in the business world during the career fair.

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