

A Caltech logo is projected onto the tent wall before a waterfall at last Friday's "Celebration of Caltech" fundraising kickoff. Alumni enjoyed drinks and appetizers as they shared stories of Caltech.

Campaign Launches with Celebration

By TAMMY MA

Albeit the gray sky and the light sprinkling of rain, Caltech kicked off its five-year, \$1.4 billion fundraising campaign on October 25th with a live band and hors d'oeuvres galore. The big white tent that had for a week occupied the north fields was transformed into a wonderland of lights, tuxedos and Caltech logos. The invitation-only Caltech Campaign Celebration played host to such campus greats as Gordon and Betty Moore, Eli Broad, David Baltimore, Benjamin Rosen and many other distinguished alumni and faculty.

Despite the recent \$600 million gift from Gordon and Betty Moore and their family foundation, more money is neccessary for Caltech to remain at the forefront of scientific research. According to Baltimore, "Without the best labs, equipment and instrumentation, we cannot hope to attract the very best scholars and students to campus."

With the \$1.4 billion, approximately \$800 million of it will be committed to people and programs, which includes fellowships, scholarships and faculty funds. \$400 million is alotted for buildings and \$200 million for equipment. Among Caltech's plans is to build a telescope three times larger than any in existence and to create a Center for Plate Boundary Studies. Right now, over \$800 million dollars has been pledged toward the ultimate goal.

With less than 20,000 living stu-

dents and alumni of Caltech, \$1.4 billion is indeed a lofty goal—one Caltech tried initiate on Friday night with what they called "a celebration of scientific achievement." Charlie Rose, Emmy-Award winning PBS journalist served as the emcee. A video produced by Norman Seeff, humbly entitled "Infinite Possibilities," featured a handful of renowned Caltech scientists and professors who shared their views on science and the roles Caltech has played in their successes. Gordon and Betty Moore were honored for their generous gift with an asteroid named after them.

The night was wrapped up by Ben Rosen, chairman of the board of trustees and Charlie Rose urging everyone to give.

"This is a pivotal event in Caltech history," said Baltimore. "There's no other place like Caltech."

Advances Aid Research Amidst Federal Delays

By ROBERT LI

Despite an operating budget more than 60% dependent on federal funding, Caltech is eligible to continue to receive advance appropriations in the wake of an ongoing delay in Congressional budget appropriations, Vice President of Business and Finance Al Horvath said last week.

Budget negotiations ground to a standstill last month over opposing education and defense spending initiatives. It wasn't until last Thursday-more than a month beyond past years' budgets—that Congress finally passed President Bush's con-troversial \$355 billion defense measure, which includes a 4.1% military pay raise and represents a historic \$37.5 billion increase over last year's package.

The move leaves Congress with a projected \$159 billion deficit, down from a surplus of more than \$100 billion in 2001 and more than \$200 billion in 2000. It is in the largest spending hole since 1994, then, that Democrats and Republicans will face off in coming weeks over education spending for fiscal year

In May 2001, Bush's "No Child Left Behind Act" authorized more than \$32 billion for education in 2002, 15.8% more than the previous year's allocation. However, in

Biologist Lester Lays Out Nicotine Research

By JON FOSTER

"Talking about your own research is like buying a new computer,' quipped Henry Lester, instructor in biology. "You always want to wait another six months for the next big

Many of the interesting parts of Lester's Watson Lecture last Wednesday were discoveries which seemed so close. His talk, entitled "The Response to Nicotine," focused on mice which had been genetically modified to be hypersensitive to nicotine and what they might be able to tell us in the near future about a bevy of human ailments from epilepsy and Alzheimer's to alcoholism and Parkinson's.

Familiar to many Caltech students as the professor of Bi 1, "Drugs and the Brain," it was no surprise that Lester gave a very thorough description of how nicotine reaches the brain, aided by the ammonium hydroxide that Lester showed to be an ingredient in Marlboro ciga-

Once in the brain, the nicotine mimics, according to Lester, the action of the naturally occurring acetylcholine at the synapse. Both chemicals bind to a specific molecule on a neuron, opening a gate inside the cell that allows an electrical signal to flow by means of sodium and potassium ions. The main difference between the two chemicals is that acetylcholine is naturally destroyed by an enzyme in the brain, while nicotine hangs around in the gate, causing the synapse to fire again and again and again.

But what about the condition of nicotine addiction which has plunged the cigarette manufacturers into such hot water? The current hypothesis is that changes at the gate bring about changes inside the cell's nucleus at the genetic level. Because nicotine has been studied for so long. Lester is confident it will be the first addiction "solved"—the first addiction scien-

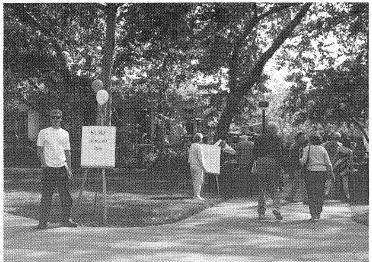
Continued on Page 2, Column 3



Instructor in Biology Henry Lester lays out his research group's ef-Continued on Page 2, Column 1 | forts to "solve" the problem of nicotine addiction.

SURF: HANGING TEN

Article on Page 8, Column 3



E. Adams/The California Tech

SURF Seminar Day bears witness to scores of students publicly presenting the results of their mentor-guided summer research.

Panel Sets Off Honor Code Talks

By TAMMY MA

"No member of the Caltech community shall take unfair advantage of any other member of the Caltech community.'

Given the lingering vagueness of the Honor Code at Caltech, student leaders in conjunction with administrators staged a panel discussion last Thursday on "The Role, Philosophy and History of Caltech's Honor Code." Panelist members present included John Choi, Graduate Review Board chair; Vice Provost David Goodstein, professor at Caltech for 35 years; Jason Hickey '85, instructor in computer science; Ted Jou '03, ASCIT President; Vikram Mittal '03, BoC chair; and Phil Naecker '76.

Each member began by sharing his perspectives and an interpretation on what the Honor Code is and what it meant to him. Responses ranged from describing the Honor Code as a system of respect to a character-building exercise to a bind that unites us as scientists. "To tried to emulate Caltech's honor me, the honor system is intimately tied with science. As scientists, we expect honesty and truth. It's the same at Caltech. The Honor Code gives us lots of freedom and this is not necessarily true in the outside world," explained Hickey.

Said Naecker, "the honor system is about not having rules. We're all smart people." He went on to say that the system works because it is a community-wide structure that everyone here respects and tries to

Jou explained the Honor Code by calling it a system of student governance where students police themselves rather than depending on interference from administrators. For example, students are allowed to pull pranks, but when something breaks or someone gets hurt, the person responsible will take his due responsibility. Through this, many conflicts can take care of themselves.

Although other universities have

system, the panelists felt that the arrangement here is unparalleled. For example, at Cornell, it a student's leaving his work where another may be tempted to copy constitutes a.violation of the school's honor system At Caltech, this would seem absurd, because our Honor Code is based on a system of mutual trust by which everyone agrees to abide—not just a select few.

John Choi explained the impact of the Honor Code to graduate students. "Most graduate students come from other places without the Honor Code. Usually, their first eye-opener to its significance is as TAs for the undergraduates. It's easier for the undergrads to grasp, but more confusing for the TAs. Graduate students don't take as many classes, so the academic aspect is not as relevant. But it makes science much easier and pleasurable.

Others also praised the Honor Continued on Page 2, Column 3

Sniper Caught, Hostages Freed

By SAM HSIUNG

Paul Wellstone Killed in Plane Crash

Democratic Senator Paul Wellstone of Minnesota was killed in a plane crash last Friday in northern Minnesota along his wife, daughter and five others. Senator Wellstone held a key Democratic seat in the US Senate and was in a tight re-election campaign against Republican challenger Norm Coleman. Many politicians, Democrats and Republicans alike, have expressed grief over the tragedy, including President Bush, who described Wellstone as "a man of deep convictions. He was a plain-spoken fellow who did his best for his state and for his country."

Washington Area Sniper in Custody

The Washington area sniper suspect, alleged to be responsible for killing 10 people and wounding three, was caught last Wednesday and is currently in police custody. The suspect, John Muhammad, a Gulf War veteran, along with John Lee Malvo-who police accuse of aiding Muhammad—appeared last Friday night as demands were made that they face the death penalty.

Police found the suspect after searching his car, a 12-year old Chevrolet which had its backseats removed to allow someone to lie flat in the car with a rifle to pick off victims. The suspect

had actually drilled two holes Where through the back of the trunk of the chevrolet—one to fit the muzzle of his rifle, the other to allow him to sight his victims.

In believing that the suspect's vehicle was a white van, police actually pulled over the suspect twice for traffic violations, but failed to search the car. Police now claim they have ample evidence linking Muhammad to the crime, including ballistics tests that link the bullets found at each crime scene to his gun.

The arrests have ended a week of terror in the Washington area. Schools have resumed normally and motorists now fill up their cars at gas stations without fear.

'Special Substance' Ends Chechen Crisis

Approximately 40 Chechen rebels, including 10 women with explosives strapped to their chests held over 700 hundred people hostages last Thursday. The rebels, who took control over a packed theater only three miles from the Kremlin, threatened to start killing hostages if Russia would not withdraw its troops from Chechnya within a week.

Finally, early Saturday morning, Russian special forces stormed the Moscow theater killing their leader and successfully freed the captives, using what President Vladimir Putin called a "special substance" to dull the rebels. Up to 20 bodies were seen being moved from the theater after the fight, some of them hos-

tages. However, the situation remains in a flux after a Russian surgeon admitted Sunday that police had used a brand of anesthetic questionable under UN chemical weapons regulations. As a result, over 160 hostages remain in grave condition.

World News: Senator Killed, Biologist Details'Staub Tails,' Ion Channels in Tobacco Talk

Continued from Page 1, Column 5

tists will be able to track precisely to specific nicotine-induced changes in the brain.

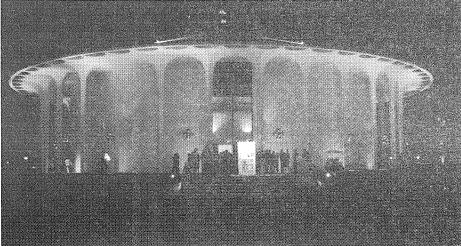
Lester's group is attacking this problem by genetically modifying mice to have hypersensitive neurotransmitter gates—they have channels which stay open longer. As Lester explained it, the "knees" which open up the ion channel are "less oily" so they stay open longer after being told to open. These hypersensitive mice have several odd behaviors: they are extremely nervous, calmed only by minute amounts of nicotine, and exhibit a 'Straub tail" in response to larger doses.

"A Straub tail," explained Lester, "is like when your cat hears the can of cat food being opened and runs into the kitchen with its tail high in the air." Research is still underway to see whether these mice will "self-administer" nicotine—a classic symptom of addiction in which mice voluntarily press a lever to give themselves doses of nicotine even if this means ignoring food. These mice have not yet enabled Lester's group to track the precise mechanism of addiction, but have led to the discovery of several interesting overlaps between mice and human disorders.

A specific sort of epilepsy in humans-Autosomal Dominant Nocturnal Frontal Lobe Epilepsy—can be treated by blocking the same acetylcholine-channel. Large doses of nicotine produced many more seizures in the hypersensitive mice than in normal ones, suggesting that maybe humans with this condition have a similar hypersensitivity to acetylcholine or nicotine. Hypersensitive mice also respond to human Alzheimer's drugs which block the enzyme which destroys acetylcholine and they are extremely sensitive to ethanol or, as Lester put it, they are "cheap

Both these responses mean that this strain of mice could be useful for studying Alzheimer's and alcoholism. A recent study on identical twins, in which one of each pair of twins had Parkinson's, showed that smoking protects against Parkinson's disease; the twin without Parkinson's typically smoked more or had smoked cigarettes for longer. But is this effect due to nicotine or some other chemical in cigarettes? The hypersensitive mice provide another piece of this puzzle, since they are born with brains that look like the brains of Parkinson's patients; that is, they have very few neurons which produce dopamine.

The theory is that in the hypersensitive mice, over-stimulation of the dopamine producing neurons results in their death, a condition called excitoxicity. Nicotine's ubiquity and history make it an ideal drug for study and the discoveries being made by biologists like Lester will have wide implications for how we understand drugs and diseases in humans. The next "six months" in this field could be very exciting.



E. Adams/The California Tech

Beckman Auditorium plays host to Wednesday's Watson Lecture, which saw Instructor in Biology Henry Lester outline his latest research on nicotine's effects on the brain.

No Caltech Left Behind in Budget

World

Continued from Page 1, Column 3

a decade that saw education spending rise from \$17 billion in 1990 culminating with an 18.5% increase approved in Bill Clinton's final year in office, the No Child Left Behind Act seemed to forecast an administrative "spending freeze" strategy that didn't bode well for K-12 educators.

However, organizations like the National Science Foundation, the National Institutes of Health and the Department of Energythose whose grants form the crux of Caltech's operating budget-may find themselves, in the interest of national security, with something of a monetary cushion. Just two weeks ago, for instance, the NSF received nearly \$1 billion in Congressional appropriations to fight "cyberterrorism."

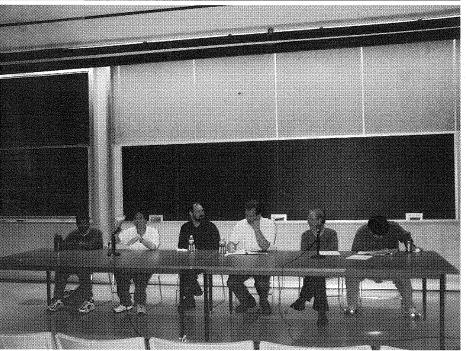
Of course, federal funding is critical to the daily operations of Caltech. Over 60% of Caltech's operating revenue is derived from sponsored research to which the federal government is by far the major contributor. Of the federal funds that come to Caltech, most are research grants from various agencies. These fund a significant part of Caltech's research and are very important financially. In addition, there is also financial aid of various forms received and passed along to the

Despite the importance of federal funds to

Caltech, the budget problems in Washington has not affected Caltech in any way nor is it likely to. According to Horvath, Caltech remains unscathed from these troubles because despite the lack of a budget for the next fiscal year, Congress has implemented resolutions to allow federal agencies such as the NSF to continue reimbursing Caltech and other institutions for grant work.

When asked if other universities were having financial troubles, Horvath replied that he has not heard of any. However, certain state universities are having monetary problems because their respective state governments have huge shortfalls in their budgets and are passing it along. In Massachusetts and Connecticut, for instance, state legislatures under pressure to avoid delays recently authorized deficits of more than \$800 million apiece for fiscal year 2003, rekindling gubernatorial debates on education cuts.

As to the future of the current budget situation and federal funding in general, Horvath explained that "we [will] watch the budget situtation in Washington very closely to determine funding trends and to try and project if there will be any particular impacts from delays that can occur. We are hopeful that progress will continue on the Federal Budget and that no delays will be felt at Caltech.'



J. Mao/The California Tech A panel of faculty and student leaders takes questions at last Thursday's open forum

on the Honor Code.

CALTECH HONOR **CODE DISCUSSED** IN PUBLIC PANEL

Continued from Page 1, Column 5

Code by saying that it makes students' lives easier. There's much less competition between students here than at other schools. It fosters an environment where students can work together effectively. Instead of competition, there's collaboration. "It establishes a system of respect that flows through the community," said Mittal

Nonetheless, all the panelists acknowledged that there are flaws in the system. Said Jou, "We sum it up in one sentence. It's a trap because it's too simple. We assume everyone understands. Cheating is obviously a violation, but there's so much more to it, such as the way we treat each other."

Also, according to a survey Jou took over the summer in which he asked alumni what percentage of their classmates they believed abided by the Honor Code, there has been a general decline over time.

Some in the audience expressed their opinions that the Honor Code just doesn't work. Rumors were cited of students taking homework that other students had just turned in out of submission boxes so they could copy or of students going to morning sections of Physics to get quiz answers before turning in their own quizzes later on in the afternoon. As far as the BoC knows, there are no instances of these stories being true, but it doesn't mean that cases like this may not exist. Participants simply urged that studies be done as to whether or not students truly follow the code.

The panelists wrapped up the discussion by asking the Caltech community what it feels can be done to make the system work.

THE CALIFORNIA ECH

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> EDITORS Kevin Carl Bartz Tammy Yee Wing Ma

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'GRIPPING': RED DRAGON WINS PRAISE

By JOHN OH

Doctor Hannibal Lector, Hannibal the Cannibal, locked behind maximum security, strapped in a straitjacket, muzzled, thinking of dining of chianti, fava beans and a tasty morsel of liver.

Few characters in movie history have chilled us and captured our minds as Hannibal Lector has. Hannibal makes a third return to the silver screen, following *Silence of the Lambs* and the sequel. *Red Dragon*, which opened last Friday, is a prequel to *Silence of the Lambs* and takes us to the early days of Hannibal's incarceration.

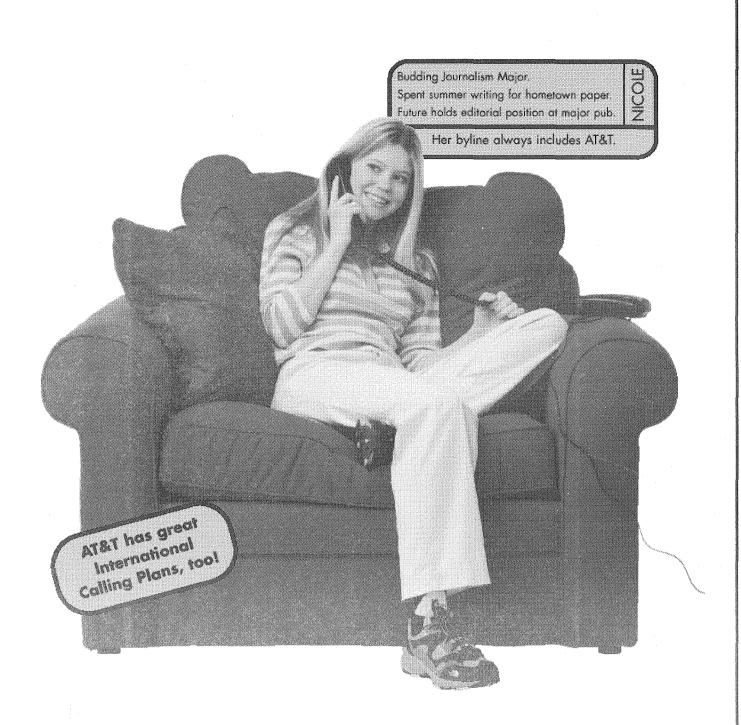
While it does not live up to Silence of the Lambs in psychological suspense, it is nevertheless a gripping film in its own right. Anthony Hopkins reprises the role of the doctor with a gourmet taste. His portrayal of Hannibal is as chilling as he was in Silence of the Lambs.

Starring opposite Hopkins is Edward Norton as FBI Agent Will Graham, who seeks Lector's help in catching a serial killer played by Ralph Fiennes. Norton's Graham holds a gripping chemistry with the psychotic doctor, tit for tat, matching each of Hannibal's cunning moves with his own. Whereas in Silence of the Lambs Jodie Foster's Clarice Starling seemed a pupil to Lector's mentor, Hopkins and Norton play equals and rivals, switching roles between the hunter and prey. However, unlike Silence of the Lambs, Red Dragon focuses less on Lector and the FBI agent and fully develops the character of the serial killer Francis Dolarhyde.

While the movie does not delve as deeply into the mind of Agent Graham, the audience is thrown deeply into that of the killer: why he does what he does, what drives him to do what he does. Fiennes' portrayal of Dolarhyde steals the scene quite often, who becomes as frightening a character as Hannibal Lector in his own right. Red Dragon also carries a superb supporting cast, with Emily Watson playing a blind woman who nearly pulls out the human side of Dolarhyde and Mary-Louise Parker as Agent Graham's wife, who must deal with being the wife of a man who seeks

Continued on Page 4, Column 5





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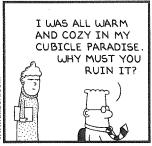




























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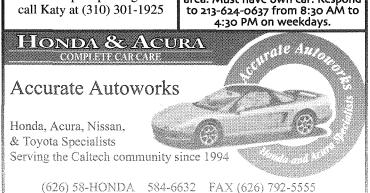


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HOPKINS LIVES UP TO ROLE AS MAD DOCTOR

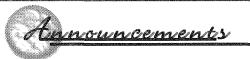
PSYCHOLOGY KEY IN RED DRAGON

Norton and Fiennes Match Hopkins' **Acting Strength**

Continued from Page 3, Column 1

out a psychotic serial killer to capture another one.

Harvey Keitel, who plays Jack Crawford and Anthony Heald, reprising the role of Dr. Frederick Chilton, round out the cast. In days where special effects seem to be the only way Hollywood tries to give us a scare, Red Dragon is a truly suspenseful film. While it does not hold the subtleties of Silence of the Lambs, the doctor, the agent and the killer all trying to outsmart each other makes Red Dragon a master-



Dabney will be holding it's traditional **Pumpkin Drop** on Halloween night, which is this Thursday! Be at Millikan Library at 23:59:59 on October 31st to watch 40 pumpkins and a nice amount of liquid nitrogen descend the heights of the building. Brought to you by Dabney, co-sponsered by ASCIT and GSC.

If you would like to continue an Honor Code Discussion online, please visit the ASCIT Newsgroups at http://donut.caltech.edu/newsgroups/ and click on honor-code.

The Fellowships & Study Abroad Office has several information meetings in November on Study Abroad opportunities. All meetings will be in the Winnett Club Room 1 from noon until 1pm. Lunch will be provided and we would like you to RSVP for each meeting by the dates given below. 1) Summer Study Abroad. Info Meeting. Wednesday, Nov. 6th. RSVP to lani@caltech.edu by Nov. 1. 2) Copenhagen Scholars Study Abroad Program. Info Meeting Wednesday, Nov. 13th. RSVP to lani@caltech.edu by Nov. 8. 3)Cambridge Scholars Study Abroad Program. Info Meeting. Tuesday, Nov. 19th. RSVP to lani@caltech.edu by Nov. 15. For more information, please call x2150 or check our website: www.fellowships.studyabroad.caltech.edu. Fellowships & Study Abroad. Center for Student Services, Room 319.

The Glamour Magazine's 2003 Top Ten College Women Competition has begun. The competition is open to all full-time juniors regardless of major or GPA. All entries must be post-marked by January 31, 2003. Contact the Dean of Student Office, Room 210, Center for Student Services Bldg., for the application.

ASCIT has received a donation of 27 free passes to attend a 4-day gun training course in Las Vegas from December 6 to December 9! This exciting opportunity includes all expenses for attending the training as well as hotel rooms on the Las Vegas strip for the stay. Food, incidentals and transportation costs should be provided by the participants. Please visit http://www.frontsight.com for more information on the course. To sign up or for more information, please contact jialan@its. Spots are going fast!

Take your Professor out to lunch at the Athenaeum! Come to the Board of Directors meeting and tell us your plan. Then find your favorite professor and take him/her out to the Athenaeum! Contact bod@donut.caltech.edu if you're interested. Sponsored by the Associated Students of the California Institute of Technology and the Master of Student Houses.

The Intercultural Discussion and Support Group creates opportunities for you to meet students from all over the world and have meaningful discussions about experiencing a different culture. Whether you are from India or Indiana, this group will provide you with an opportunity to explore some of the challenges and frustrations associated with cross-cultural encounters, as well as to discuss the importance and rewards of successfully managing these encounters. If you have an interesting story to share about your experiences meeting someone from a different place, or if you would just like to discuss some of the challenges that you have faced adjusting to your "new Caltech home", you are welcome to join our group. Meetings are open to all Caltech students and take place every Monday beginning October 21 from 12 - 1 PM in the Common Area outside of International Student Programs (250-86, 2nd floor of the Center for Student Services). If you plan on attending one of these lunch meetings, please contact ISP at oip@its.caltech.edu - this will guarantee that we have enough food for every-

Caltech Library System Presents: The following sessions are approximately one hour of formal instruction in the Sherman Fairchild Library Multimedia Conference Room (328).

Research Techniques for the CORE Science Writing Course"

Tuesday, October 29, 3:00-4:30pm and Thursday October 31, 4:00-5:30pm This session is intended for undergraduates working on their CORE 1ab (Science Writing) requirement; however, all undergraduates are encouraged to attend for an introduction to the library's resources and services. We will focus on research strategies for searching major science and engineering databases to identify key articles, conference papers and books. You may register for these and other upcoming classes at: http://library.caltech.edu/learning/. For further information, please contact Kathleen McGregor at x6713 or kathleen@library.caltech.edu.

Would you like a sounding board for an essay or report that you're writing? Need help with a statement for a research proposal or a grad school application? Visit the Hixon Writing Center. The Center's Consultants Service offers free and confidential writing conferences with an English instructor or peer writing tutor. A writing consultation can benefit writers at all levels of ability. Consultants provide supportive, informed feedback at any stage of the writing process-from brainstorming and drafting, to editing and revising. They can also help with writer's block or second-language issues. Consultants do not merely proofread papers or provide remedial grammar instruction, but help writers develop methods for improving their own work. For more information, go to http://writing.caltech.edu/.

Midterm Massage Madness. Undergraduates take a study break and relieve the stress of midterms! Free chair massages. October 30, 2002. 6-9pm at the Women's Center, room 265 of the Center for Student Services. Chair Massages by Lura Astor, LMT. For more information or to sign up please call the Women's Center at extension 3221.

Male-female Ratio Red Herring In Debate Over Gender Equity

By SARAH HEILSHORN

Two weeks ago, I noticed an article blaming Caltech's male/female ratio for the lack of social skills and gender issues on campus. While I agree that the ratio does impact the social atmosphere on campus—and I believe the author's suggestion of a "social skills for males" class would be a nice addition to the curriculum—I think that simply blaming the ratio oversimplifies the problem. Also, students seem to be among the largest proponents of this ratio theory because it takes away their responsibility for social and gender issues on campus; it's not their fault that more women don't apply to Caltech and that those admitted often decide not to come

However, I was an undergraduate at Georgia Tech, a school with a ratio problem worse than Caltech and I simply didn't notice the same types of social and gender issues

So what makes these two campuses different? I have three possible explanations. First and most obvious, the work-load expected of students at Caltech is much heavier than for Georgia Tech students. I think it's a positive development that the overworking of Caltech undergrads has been getting some attention lately. Most undergraduates I meet are overstressed and have pessimistic outlooks on their educations. This negativity is bound to spill over into other aspects of their lives.

Let's face it: when you're stressed out, you go into "survival mode" and you don't spend much time thinking about how to make Caltech a nicer place or how to be more gender equitable or how not to offend minority groups on campus. Sure, you may be getting a topnotch science education, but at what expense and to what gain? Students should continue to force the faculty and the administration to address this issue. And in the mean time, stop overloading!

Second, Caltech lacks organizations and places on campus where women can socialize together. At schools without a ratio problem. this just happens naturally. Students develop both mixed-gender and single-gender social circles. How-

ever, due to Caltech's ratio, that is in a particular house who were less likely to happen here. Georgia Tech addressed this issue by offering female dorms, female social groups and a very active Society of Women Engineers chapter with over 200 members.

The Women's Center at Caltech is a great place and offers many valuable resources to the students; however, it doesn't seem to me that women on campus are using it as a springboard to develop social networks. And the student-led women's organizations on campus cannot provide a lot of programming because they're led by overworked students-see reason number one. I'm not suggesting that Caltech must have an all-female house to solve this problem; but surely someone at Caltech could come up with a few ideas to create places on campus where women feel comfortable socializing to-

"I think that simply blaming the ratio oversimplifies the problem."

However, I believe that attempts to bring about these types of changes on campus would be met with a lot of resistance, which brings me to reason number three. In general, Caltech undergraduates dislike change. Traditions are very important here and are central to the "experience" of being a Caltech undergrad. However, even the Honor Code and the core have evolved over time in order to stay relevant and meaningful.

It seems to me that when women were admitted to campus, very little was done to alter the social atmosphere or student-support structure. In trying to be very careful to treat men and women equally, perhaps campus is failing to recognize and respond to the obvious differences in males and females, although whether you believe these differences are due to genetic or environmental pressures is another discussion entirely. For example, I recently heard of a group of women meeting together simply to socialize. However, they were met with such suspicion by other house members, they decided to give up their meetings. I think that the Caltech students should be careful not to view every proposed campus change as an attack on traditions.

Finally, I'd like to fill in some details about another comment in the article. The author stated that attempts to remedy the ratio at that "other Tech school" have resulted in problems. I'm assuming that he is referring to the new admittance procedures being used by MIT, which have resulted in more women being admitted to the school.

The MIT admissions office conducted a study to determine if standardized test scores, which were a large portion of the admissions decision, really were a good predictor of future academic success at MIT. They found that standardized test scores did not correlate well with a student's future GPA or graduation probability and that this was especially true for women students. Therefore, they stopped placing such a heavy emphasis on standardized test scores when admitting students. This has resulted in more women students and, according to Evelyn Fox Keller who gave a lecure on diversity last year at Caltech, these women are continuing to achieve high levels of academic success.

If these new admissions procedures are being interpreted by the undergrads at MIT and Caltech to mean that MIT women undergrads are academically inferior, then I would suggest that these people have been misinformed. Why would a school continue to use a system to differentiate potential students if that system was found to not be a good indicator of future success? Furthermore, why would a school risk its academic reputation by admitting students who were not capable of completing the work?

The obvious answer is: they wouldn't. Perhaps Caltech undergrads should spend less time questioning the methods of the MIT admissions department and more time applying their considerable knowledge and creativity to improving Caltech.

ARC Sign-ups. To all Undergraduate Students: here is your chance to get involved!

We are currently looking for students to serve on committees for the Student-Faculty Conference, to be held in April(tentative date: April 8, 2003). The Student-Faculty Conference aims to bring students and faculty together to look at the big picture and to tackle the big problems that face students. Previous conferences have shown to be quite useful, as they have led to such things as changes to the core curriculum, reductions in the number of units needed to graduate, phones in student rooms and so on. Last year, the Institute presented the first student-faculty conference to take place in several years. However, the conference did not cover many of the academic issues concerning students and faculty at the Institute. As a result, the ASCIT Academics and Research Committee is coordinating an additional conference to address curriculum and academics, slated to take place this spring

This year's Student-Faculty Conference will include numerous committees from the Institute's academic divisions, with some of the divisions split into subcommittees grouping similar options. These committees will meet several times before the conference to investigate the curriculum and academic issues in a specific option or division and to prepare a presentation based on their findings.

Each of the division or option committees is being asked to evaluate: * The adequacy of requirements for the option(s) being evaluated and relevance and effectiveness of prerequisites for the requirements * Scheduling and availability of courses within the option(s) * Common problems encountered in major required courses for the option(s) * Quality of communication between students and faculty within the option(s) * Addition or deletion of courses available in the option(s) * Appropriate number classes covering practical applications and theoretical background in the option(s)

Each committee is to be comprised of a mixture of faculty, undergraduate students and graduate students from a particular option or division. Students selected to help with the conference are expected to fully participate in investigating the areas of concern noted and to assist in presenting committee findings at the conference. The division and option committees are as follows:

- Physics, Math and Astronomy Math/Applied Math: 2 undergraduates from each option Physics/Astronomy/Applied Physics: 2 undergraduates from Physics, one from each of the other options Biology BUSAC will be appointing members onto this committee
- Chemistry/Chemical Engineering 2 undergraduates to be selected from
- Humanities and Social Sciences Economics/BEM: 2 undergraduates from either major Humanities: 3 undergraduates (option unspecified)
- · Geological and Planetary Sciences Undergraduates to be chosen from those whose options are within the division
- Engineering and Applied Science Mechanical/Aeronautical/Civil Engineering: 3-4 undergraduates from these options Electrical/ECE/CS: 3-4 undergraduates from these options Other E&AS: 3 undergraduates who are not in the ME, Aero, CE, or CS concentrations, but whose option is

E&AS (Environmental, CNS, Material Sciences or just general). Additionally, two other committees are scheduled to present at the conference:

- Core Curriculum (4-5 undergraduates) The core curriculum committee will look at all aspects of the core curriculum. These aspects include assessing whether core is appropriate for every major and whether the material covered in each class is suitable for the undergraduate to whom it is taught. As such, the committee will also be responsible for examining the placement testing for core, special programs within core (such as Math 0.9) and possible overlaps in material. It will also evaluate the newer additions to the required curriculum, such as menu courses and the science communications requirement. The committee may also look at courses that are required for a majority of the student body, such as ACM 95.
- Workload and Student Morale (3-4 undergraduates) The role of the Workload and Student Morale committee is to investigate the impacts of the curriculum on student morale. In particular, the committee will evaluate the support network for undergraduates. This committee will also work toward standardizing Institute policies such as midterms week, the study period before finals, canceling classes on Ditch Day, returning midterms before Drop Day and respecting extensions from the Dean's office.

Each of the division committees is expected to have at least one graduate student. Interested graduate students should email arc@donut.caltech.edu.

Interested students should sign up for interviews with the Academics and Research Committee now through Thursday, October 31 by 5pm (sign up sheets are posted outside SAC 13 and next to the entrance of the coffeehouse). For more information, please email arc@donut.caltech.edu, or the ARC Chair at basit@caltech.edu.

All Tricks, No Treats

By JEAN-PAUL REVEL



All tricks, no treats. That's not quite true. Late last week there was a sudden shift, a break in the clouds, an opportunity for shelter from the monotonous, relentless shower of bad news. There were no further shootings in Maryland, no other person randomly culled from the herd. Perhaps the sniper has indeed been taken off the streets.

However, why he shot at 13 people and killed 10 is still a mystery. Perhaps these assaults were "copy cat" acts encouraged by all the other terrorist acts taking place around the world. Maybe the killers gained a sense of power by evading police, FBI, other federal agencies, their surveillance helicopters and phone stake outs, by dodging the authorities on the lookout at first for a white van when the getaway car was actually burgundy and had holes cut out of it so one could shoot from the inside.

But while this case may be winding down, the horror of terror never seems over. From Baltimore now comes the news that not "just" a mother and her children were burned to death, but that the dad also had died a few days after a drug dealer took revenge by fire-bombing a family unwilling to have drugs plague their neighborhood.

And terror continues to drench the world; now it is the seizure of a theater in Moscow where Chechens or Chechen sympathizers took hundreds of hostages and killed one apparently for refusing to stop talking on her cell phone and attempting to escape.

The New York Times Web site has a frame from an Al-Jazeera video with the picture of one of the hostage takers quoted as saying, "we came to the Russian capital to stop the war in Chechnya or to die for the sake of God." If that has a familiar ring to it, I understood that some of the people who have been suspected of links to the perpetrators of the September 11 outrages had said that they were preparing to help the Chechens.

And I just came across images of large gatherings in Australia where 10/20 was a national day of mourning for the nearly 100 Australians killed in those bars on Bali. Terror in Bali, this fabled isle of exotic beauty, which, in my mind's eye, is populated by languorous people right out of Gauguin's paintings?

Peace seems to elude us everywhere. We feel sufficiently threatened by Iraq that our government insists on threatening a preemptive war; never mind if only the Brits are willing to along with us. From the other end of the axis of evil comes the revelation that North Korea has been doing all along what they had been denying for years.

Just why this confession is made just now is not clear. Why should we believe that what they now say is the truth and what was claimed before, a lie? Could they not be applying pressure by lying now?

The "confession" certainly raises our concerns for South Korean with its sunshine policy towards the North and neighboring—rocket wise-Japan. Both could be on the receiving end of bomb-tipped Taepo Dong 2 missiles. Maybe we'll be willing to make concessions to avoid a nuclear horror.

Like the figure in "The Cry," the famous Edvard Munch painting, one wants to hold one's ears, to stop hearing about it all, the Iraqi threats to throw out journalists, the conflict between Israelis and Palestinians. the seemingly never ending political assassinations in Ireland and the Basque country, the drug wars in Columbia and the disputes between Pakistan and India. All these public catastrophes built of personal tragedies, beside which the stock market's wild oscillations are nothing, even though they threaten the future of so many retirees. And now we hear that that newly fallen icon, Martha Stewart, is being sued by Pumpkin Masters for allegedly violating their patented pumpkin carving kit. It does make one want to scream.

But there may be better things to do than scream when things go wrong, when we are faced with such mountains of stress piled on top of all the daily stresses closer to home, which do not reach the visual horizon of news agencies-Reuters, AP—but nevertheless affect you and me and everyone else.

It looks like 1312 of us—at least that's what the enumerator attached to the web page wants us to believe, but I don't know how long the page has been up—lets say quite a few of us, have been asking ourselves about stress and so have consulted the Counseling Center web page. Another place to consult for advice on the subject is the page about "self-care and self-help following disasters" set up by the National Center For Posttraumatic Stress Disorder.

One of the things that appears useful to dissipate stress is to talk about what is of concern to you. It looks like that's what I have been doing in these columns and I feel better already. Take the time to exercise: you'll find that it is time well spent, that even a ten minute walk will pay large dividends in helping you focus and concentrate. In the same vein, make sure you get your sleep. I can hear you laugh now, but you know I am right; it is so.

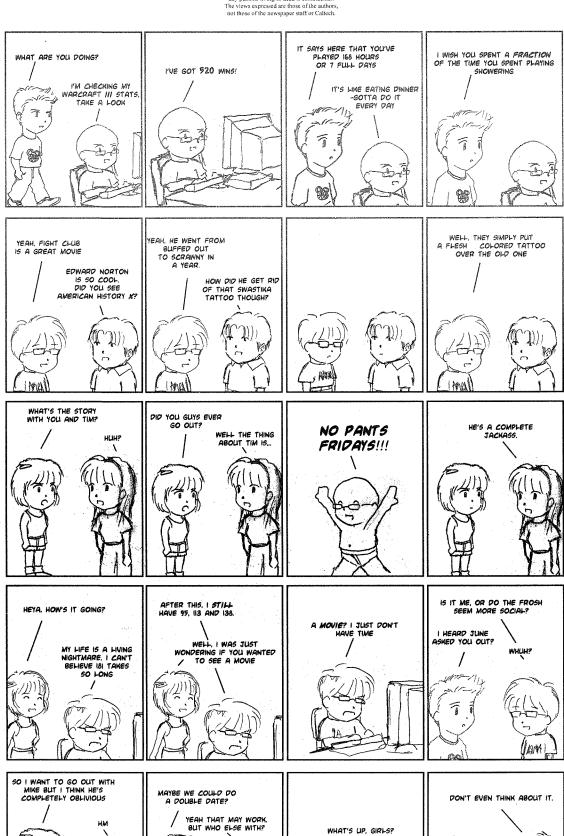
Don't try to drown your sorrows or escape your worries in drink or drugs. The longer-term physiological effects of these activities will overcome the short-term benefits of 'attitude adjustment" maneuvers.

And if simple steps like these do not suffice, remember that you are not alone in having these feelings. Maybe ask the advice of your RA, or even see the nice people at the Counseling Center. Midterms are coming up! More stress on the way. Make sure that you are caught up; don't try to tackle too much at once; be circumspect in how you manage your time. Be thoughtful lest you take advantage of your fellow students. May your bag end up full of treats.

A bientot

Jean Paul Revel

any persons living or dead is coincidental. The views expressed are those of the authors not those of the newspaper staff or Caltech.



Letters: Cafe at Broad, Gun Training Questions

Board Plan Clarifications

Dear editors,

I wanted to clarify some of the statements in the article "Checkout Counters, Limited Hours Mark New Board Plan" by Rumi Chunara and Robert Li as well as give you some more information. Open Kitchen in the North Houses are open from 10:30 a.m. to 11:30 a.m., but closed during South Kitchen's serving time. The North reopens at three p.m. for open kitchen, not two p.m. as stated in the article. "Cafe at Board" is Cafe at Broad at the new Broad building.

The South is open for lunch 11:30 a.m. to 1:30 p.m. It is busy for about a 20- to 30-minute time period starting at noon and slowing down by 12:30. The most popular items are pizza and pasta, along with the special bottled sodas. There are retail "grab and go" items in the retail refrigerator for students who are in a hurry. We carry bottled drinks and pre-made salads and sandwiches. There are also retail vegan and vegetarian items available.

If you have any questions regarding the New Board Plan, please feel free to contact me at any time.

Melissa Wettengel Student Board Program Manager

Gun Training Concerns

Dear editors,

Thank you,

I would like to express my dismay at the letter running in last week's Tech that supported the donation of free passes for Caltech undergraduates to attend firearms training in Nevada. While I hesitate to adopt a "holier-than-though" attitude, I feel there are two things that aren't being mentioned.

First of all, no matter what a slightly deranged Charlton Heston may tell you, guns are designed to kill things and submachine guns, pistols and assault rifles—all of which you could recieve training on—are designed to kill people. In fact, go to frontsight.com and look at their brochure: "Regardless of your experience prior to entering this course, upon completion... you will be able to safely and easily draw your weapon from a concealed holster and fire two, sighted shots to the center of a targ yards away-all in under 1.5 seconds."

For all the talk of gun safety, these courses are designed for one thing only: to teach you how to kill another human being. Which brings me to my second point: we don't need anymore people trained to kill people. Are you ever going to need to gun someone down while you're walking home from lab one night? Not likely. Do we need to train ourselves to be more violent simply because it's free? I don't think so.

But hey: it's up to you. If you want to go to Vegas for free and hang out in the desert with a bunch of guys talking about killing people, that's your business. Please remember, however that the world doesn't need any more violence and that if this camp were in, say, some country where there were a majority of Muslims, we'd probably call it a terrorist training camp.

Marcus Williams '03

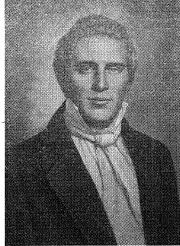
The Mormon church plans to build this temple near Caltech with

Latter-day Saints: Tithe Cut for the Upper Class?

By LIBIN ZHANG

Taking a cue from the highly successful economic management policies of the Bush administration, the Church of Jesus Christ of Latter-day Saints, also known as the Mormon Church, has decided to offer a tithe cut for the rich. The new Tithe Reform Declaration would substantially reduce the tithe burdens of the upper Mormon classes as part of a general supply-side economic program to stimulate Mormon investments.

Traditionally, Mormons are required to donate ten percent of their incomes to the church as tithes. It pays for new temples, worldwide missionary programs, free copies of the Book of Mormon and bureau-



Mormon church founder and prophet Joseph Smith is the discoverer of gold plates engraved with the Book of Mormon.

By JIALAN WANG

portant-and to some, one of the

few—aspects of life as a Caltech undergrad to take pride in. We have

Ditch Day, ASCIT doughnuts, in-

ter-house parties and many, many

house-specific traditions. Of

they can also be quite damaging.

Tradition is one of the most im-

cratic operating costs. Many church members have found the flat tithe rate to be too socialistic and have clamored for a regressive tithe system based on the American payroll tax system

The leaders of the Mormon church asked God for the desperately-needed tithe reform and quickly jotted down his "revelation" in a private session. God declared that the church may set a tithe-ceiling in the \$50,000 to \$200,000 range, with income above a certain rate tithe-free. The 15member Mormon leadership, all of whom make six-figure salaries, quickly voted to set income above \$50,000 to be tithe-free. Two previous declarations from God in 1978 and 1890 reversed the doctrines of "Blacks are subhuman and are cursed by God" and polygamy, respectively.

The additional wealth retained by the upper Mormon classes is expected to "trickle down" and ben-efit all men in the form of pandhandling donations, dropped coins, increased consumption of aluminum sodas, caviar sales and direct foreign investment. While the church budget will suffer a huge deficit, Mormon economists expects the deficit to gradually decrease: the budget should be balanced by the year 2346.

While conservative think-tanks, Reaganomists and middle-class Mormons applaud the tithe reform decision, there has been some pockets of discontent in the Mormon working classes. The disgruntled nonconformists, some of whom

Some Traditions in Need of Scrutiny

Thoughtful Action Better Advised Than 'Blind Tradition'

they've been going on forever, the real history of these activities can

often be surprisingly short. A while

back, we were all men and wore

dinner jackets every evening. In the very recent past, ASCIT hosted

'Things Like This Don't Happen'?

Snipers' Attacks Provide Insight Into the Terror of 'Real Life'

John Allen Muhammad and John Lee Malvo were apprehended as they slept in their car at 3:19 a.m. last Thursday at a rest area along a remote stretch of Interstate 70 in Maryland. With their arrest came an end to the deadly sniping spree that led to the shooting of 14 seemingly random targets, killing 10. It was the end to the wave of terror that had gripped the nation's capital, which had made everyday errands for Washington, Maryland and Virginia residents seem like terrible

It was also the end of a significant time in Americans' lives, a time when once again the relative calm of our peaceful lives was shattered. In a few weeks' time, two men successfully destroyed President Bush's promises of "homeland security." We were forcefully jarred back to the confines of reality.

Later that morning, the populace around our nation's capital began to venture outside, pumping its gas without choosing a gas station by its distance from the nearest on ramp, parking without selecting the parking space closest to the supermarket door, walking without watching the tree line in fear. Children were once again seen playing outside, traffic returned to the roads and parking lots were full. These people have breathed a very audible collective sigh of relief.

Now, the question that everyone wants answered is: why? Why did

even thought of voting Democratic, have suspected terrorist links and have all been re-educated. Tech correspondents' attempts to examine the exact nature of the re-education program have been unsuccessful due to the inability to get a temporary "temple recommend" and actually enter a temple.

Prophet Gordon B. Hinckley, political leader of the Mormons, expects the supply-side program of tithe cuts and deficit spending to greatly improve Mormon finances. Any negative results would merely be due to the depressed economic climate in the aftermath of the September 11 tragedy. Hinckley could not be reached for comment due to his attending a summit with other Republican leaders on changing the national anthem to "Onward, Christian Solders" in preparation for Iraqi War II.

they do it? The duo's motives have not been discovered and may never be. For all we know, they may have spent these weeks emulating Hollywood. How many sniper movies have been released in the past decade? Enemy at the Gates and Sniper immediately come to mind, but many others have at least touched upon the terror associated with being in a sniper, s sights. Even more notable is Twentieth Century Fox's *Phone Booth*, a movie with what was thought to be a fantastic premise of an unseen sniper shooting people in phone booths, postponed due to the recent events.

"Our relative peace that we take for granted is nothing but a veneer over the real world."

Now, does that seem familiar? Perhaps you might remember after the September 11 attacks when the release of Arnold Schwarzenegger's Collateral Damage was delayed and the Twin Towers scene was removed from Spider-man and its trailers. To top it off, there was talk of changing the title of the second Lord of the Rings movie from The Two Towers.

Perhaps we should be asking ourselves a different question: when will America stop forgetting about the harsh realities of life? Before

these weeks of terror, Americans had become too relaxed again, forgetting the uncomfortable truths they had to face up to after the September 11 attacks. Terror had once again receded to the movie screen, a two-hour dose of fright for which we knew credits would eventually roll and the threat narrowly averted.

It is events like these sniper shootings that remind us that we can find just as much "thrill" in everyday life. However, there will be no credits or a reassuring ending. Welcome to reality my fellow Americans. Our relative peace that we take for granted is nothing but a veneer over the real world, blinders we put up to shield us from the disturbing facts of life which would otherwise continually bombard us.

How many times has the phrase 'Things like this don't happen' been muttered in the past weeks? Fear is back and we don't know how to handle it. Well, it's time to face up again to the darker side of life. Death is unpredictable and sometimes unpreventable. Things like this don't happen? It's time to realize that they do. What can we do? Take a lesson from Washington area residents and just go on living. Savor the mundane events that fill your day. Most importantly, don't let this recent jolt back to reality go wasted. Let's end the cycle of forgetting once and for all.

Until next time, keep your feet on the ground and read the news, no matter how grim it may be.

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course, many traditions are fun and harmless and we all enjoy them, but "A while back, we The problem is that the current were all men and wore dinner jackets every

evening."

movies in Baxter lecture hall instead of having a theatre bought out a while. a few times a year. But these things changed and probably for the bet-Of course, traditions and rituals

Some of the most controversial traditions, at least according to adults, occur at the dinner table. Every year, many admitted students are documentedly driven elsewhere because of dinnertime traditions

over every four years. While many such as throwing food and floating. speak of traditions from roll-throw- One admitted student declined his ing to Friday doughnuts as though admission because he couldn't bear to come to a place where so many messes are intentionally made while knowing that his mother scrubbed floors just to provide for

Of course, it can be argued that the food would be thrown away anyway and that those who are driven away wouldn't be happy here anyway. And these activities are driving away not only admitted students but house members themselves. Food airborne, tables pounded until glasses shatter on the floor, house residents soaked, headwaiters laughing in sinister delight—our dinner scenes often seem more fitting for Lord of the Flies than at the top science university in the country.

I'm not saying we should do away with dinner traditions or our other wacky Caltech traditions, but I do think that we should think about all of our actions instead of doing things blindly just because they are filed under "tradition."

>> ON THE PHONE

ON THE STREET On campus >>

justification for perpetuation of a number of traditions is simply the fact that they are traditions. Such reasoning is just inadequate from us whose future careers depend on as-

tute attention and strict logic. All of our actions, traditional or not, deserve careful scrutiny every once in

with no real utility have long been used by all sorts of organizations to impart a sense of shared experience and fraternity among members. But the very idea of tradition is odd in an environment in which nearly the whole population turns

Cross Country, Water Polo, Soccer Teams Post Losses

Athlete of the Week

This week's selection is Paul "the Wall" Wali '05 of water polo. The sophomore goalie racked up 18 blocks against a goal-oriented Chapman this weekend. "Chapman shot a ton of balls on goal Thursday and we were lucky to have Paul in the net," said coach Dodd of Wali's outstanding play. The water polo team takes on Pomona-Pitzer on Wednesday before heading to the St. Mary's Tournament over the weekend.

Cross Country

At SCIAC Multi-Duals-five miles men, three miles womenthe men lost, two to five and the women, one to seven.

Individually, Gustavo Olm '06 placed 23rd at 28:33; Eric Anderson '03, 27th at 28:47; J.R. Heberle '04, 33rd at 29:30; Steve Berardi '04, 36th at 30:01; David Gutschick '06, 46th at 30:56; Marcus Ng '06, 47th at 31:03; Matthew Ng '06, 51st at 31:19; Japeck Tang '04, 59th at 32:24; and John Yao '04, 60th at 32:34.

For the women, Andrea Vasconcellos '05 placed 26th at 19:54; Tamara Becher '04, 29th at 20:00; Kamalah Chang '05, 41st at 20:44; Kim Popendorf '06, 57th at 21:33; Tracy Janov '05, 76th at 22:50; Michelle Giron '06, 81st at 24:56; and Kathleen Kiernan '04, 83rd at 25:38.

Men's Soccer

The men have been playing their best ball of the year and the gap is narrowing, according to coach Uribe. The Beavers played tough against both SCIAC opponents this week with a very narrow loss to Occidental. Look for a big game coming up against Whittier and La Verne.

Women's Volleyball

The Lady Beavers traveled to Boston to take on MIT and Plymouth State College in a three-way tournament at MIT. The Beavers didn't play their best ball of the season but managed to put on some exciting rallies for the crowd. Putting up good numbers in the tournament were Megan Kennedy '04 with nine digs, four kills and 16 assists and Colleen Moody '05 with 11 digs, eight kills and three blocks.

Men's Water Polo

The night game proved no friend as Caltech fell behind early in the first stanza, zero to two. Caltech did counter as Jim Rebesco '05 scored from long distance and Kai Sung '04 put the ball in on a man-up opportunity. The most noticeable difference between the two teams was speed and ball control.

The best Caltech could muster was a five-to-two deficit at the half. The third quarter proved much of the same as Chapman countered off a poor Caltech shot and even Wali, who finished with 18 blocks. couldn't stop them all. Sung and Saskya Byerly '03 put in two impressive lobs and the third quarter finished with Chapman leading, 10

The most exciting play of the game included a series of blocks by Wali and a mad Chapman player storming at the goalie and attempting to rip the ball and Wali's arm off. Showing class and poise, Wali let him "swim away," shaking his head at the angry Chapman player.

'Erik Grandstedt and Wali did a fine job," said Coach Dodd, "but the rest of us have played better." The final score was 13 to five, Chapman. Sung led Caltech with two goals.

Men's Soccer (0-15)

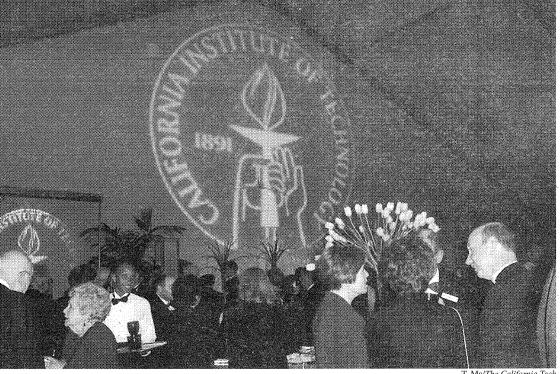
v. Occidental: Loss, 0-1 Loss, 1-3 v. Redlands:

Women's Volleyball (5-15)

Loss, 0-3 v. MIT:

v. Plymouth St.: Loss, 0-3

Men's Water Polo (1-8) v. Chapman: Loss, 5-13



Alumni mingle at last Friday's "Gala," marking the official kickoff of Caltech's latest \$1.4 billion capital campaign. The effort is among the nation's most ambitious for institutes of Caltech's caliber.

Caltech Kicks Off \$1.4 Billion Campaign

PASADENA, Calif.-When a university the caliber of the California Institute of Technology sets its sights on the future—it thinks

Caltech wants to build a telescope three times larger than any in existence, to create an unprecedented center to study the movement of tectonic plates globally, to explore the brain in action, to study protein structure and to initiate a number of other groundbreaking projects.

Thus, the Institute just last Friday kicked off a five-year, \$1.4 billion fundraising campaign.

"We want to find the big new opportunities in the intellectual world, the great unknowns. When you do something like this, you either go to things that are bigger and bigger or things that are smaller and smaller. So you go to nanotechnology or molecular structure, but at the same time you're building telescopes to look out 14 billion years," said David Baltimore, Caltech president.

Caltech fundraisers have recently received an estimated \$800 million in gifts and commitments toward the goal.

"It might seem odd that Caltech needs a campaign at this time. In October 2001 we received \$600 million from Gordon and Betty Moore and their family foundation, which was the largest gift ever made to an institution of higher learning," said Baltimore. "The gift was indisputably generous and will be extremely helpful, but it alone cannot meet all our needs. To remain preeminent, we must bring to bear on our mission increasing resources. Without the best labs, equipment and instrumentation, we cannot hope to attract the very best

scholars and students to campus." The invitation-only Caltech Campaign Celebration took place last Friday on the Caltech campus. The master of ceremonies was Emmy Award-winning television journalist Charlie Rose.

If the goals of this ambitious cam-

paign are fulfilled, the results could be unprecedented.

Currently the largest telescopes on Earth are Caltech's twin 10meter Keck Telescopes in Hawaii, but the telescope the Institute hopes to build would be 30 meters in diameter and would have nine times the light-gathering power of the

Using a combination of seismology, space geodetic techniques and field geology, a new Center for Plate Boundary Studies will help scientists understand the evolving physical state of tectonic plates.

A synchrotron beamline that produces intense X-ray beams would be used to determine the structures of proteins and macromolecular machines to yield insight into the behavior of living organisms and expand researchers' ability to manipulate biomolecular assemblies, an important component in the development of new therapeutic agents.

With a functional magnetic resonance imaging facility researchers will be able to noninvasively study the complex relationship between brain cell activity and behavior, including insights into the causes of mental illness.

"Caltech is a very compact place where you take a lot of very smart people, you put them all together, give them the resources, encourage their interactions and then you stand back and magic happens," said Provost Steve Koonin.

Targets for Funding

- New astrophysics building
- · New information sciences build-
- California Extremely Large Telescope design
 - Undergraduate financial aid
 - Faculty startups
 - Nanofabrication facilities
 - · New campus center building
 - Renovation of student houses
 - Cryoelecctron microscope · Purchase sophisticated instru-
- mentation in all divisions
- SURFs

SURF PRESENTATIONS DRAW BROAD CROWD

By PHIL HARRIS

In a day-long event that drew parents, locals and scores of researchers, the annual SURF Seminar Day bore witness to original research by over 300 students, from Caltech and

This year's slate of SURF projects ran the gamut from "Searching for the cis-Regulatory Region of SpKrox1: An Endomesodermal Transcription Factor in the Purple Sea Urchin" to "Characterization and Cloning of Mutant Genes Affecting Meristem Function in Arabidopsis thaliana" and "High-Speed Videography and Modeling the Dynamics of Rat Whisker Movements."

Now in its 24th year, the Caltech SURF program gives undergraduates across the globe a chance to

work closely with faculty members in conducting an independent research project. For a stipend of \$5000, students collaborated with research mentors over the course of the summer and prepared final reports in the style of a Nature article.

But perhaps the capstone experience for SURF's students was Seminar Day, which saw each deliver a prepared 15-minute technical presentation on his subject of research. Presentations ranged from the humorous to the scrupulously technical, but all bore consideration from judges for the annual Perpall Speaking Competition. Finalists advance to later rounds over coming months, in which judges select winners for three cash prizes up to

Nathan Fung '03, Richter SURF scholar, presents "Characterizing

Six Major Aftershocks of the Northridge Earthquake Sequence."

E. Adams/The California Tech

Julia Greissl '03 explains "Towards the Initial Mass Function of the Star Forming Region MonR2: A Spectroscopic Investigation.'

THE CALIFORNIA | ECH

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