

Physicists Spot Elusive Quark

by Heide Li

At the Fermi National Accelerator Laboratory in Batavia, Illinois, scientists announced Tuesday that they may have found evidence for the existence of the long-sought top quark. If confirmed, the discovery of this elusive subatomic particle would provide final experimental proof of the Standard Model, the theory upon which our modern understanding of atomic structure is based.

The international team of scientists from Canada, Italy, Japan, Taiwan, and the United States used the Tevatron particle accelerator at Fermilab to produce the immense energies needed to create the top quark, which is as heavy as an entire gold atom. The top quark itself decays in less than a trillionth of a trillionth of a second, and cannot be directly observed. Instead, the Fermilab team searches for the byproducts produced by the top quark as it decays into lighter particles. 15 such events have been detected, while the number of events expected from background noise is about six. The probability of the nine excess events occurring as a chance fluctuation in the background noise is fairly unlikely: about 0.26%. However, many scientists caution that evidence of top quark existence is far from definitive. Melvyn J. Shochet, a spokesperson for the Fermi project, said he would like to see "two or three times" as much supporting data before declaring a definite discovery.

Caltech physicist Murray Gell-Mann, founder of the Standard Model theory, said of the news: "Not finding [the top quark] would have been shocking. We theorists would have to fall on our fountain pens. It would be an inconceivable disaster for theorists if they could not find it."

This Just In:

The ASCIT Formal is on!!!

All undergrads, grads, faculty, staff, and Alumni are invited.

The cost is \$50 per student couple and \$100 per faculty, staff, and alumni. The formal is at the Ritz-Carlton Huntington Hotel on Friday, May 13th from 6-12 pm. Interested parties should R.S.V.P. to Chris Marsh at socdir@ascit or at x1601.

Snow and Whaley Leave Admissions Office Open

Top Two Admissions Spots Left Open as Directors Leave for Chicago

by Tobias Bartels

The Caltech admissions office lost their second major committee member in as many weeks last Friday. Marcy Whaley joined Dr. Carole Snow, who had left a week earlier, at the Illinois Institute of Technology. According to Whaley, it was "a good career move." Dr. Snow had obtained a position as a dean at IIT and invited Whaley to join her when a second opening at IIT appeared. Whaley stressed that neither she nor Dr. Snow was leaving because of any dissatisfaction with Caltech, but that they both felt they could use the new experience.

Whaley said she was happy with the trends she had seen over her eight years at Caltech (Dr. Snow had been here for three years). When she came, said Whaley, the admissions office had not been taken seriously by the rest of the administration. She said admissions had largely been de-

cidated by faculty who were pressed for time, and the office was seen as merely clerical. Now, she is happy to see the full-time office staff bearing the time load while the faculty is still heavily involved in the decision making process. Whaley also said she was happy that recruiting was seen as more important to Caltech. While

Caltech is still less well-known nationally as other schools of its caliber, the trend is towards greater recognition because of more emphasis on recruiting. She was also pleased with Caltech's greater success at attracting women and hoped that similar success at attracting ethnic minorities will soon follow.

Interviews for those who will be replacing Snow and Whaley will probably take place over the summer, said Whaley. Until then, continuity in the admissions process will be provided by Bill Bridges, the faculty head of the admissions committee, as well as by the many staff members involved in the admissions process.



Carole Snow (left) and Marcy Whaley (right) will be sorely missed at the Admissions Office. (These photos should look familiar)

Public Policy as a Career

by Mike Clemens

Careful observers note several long-term trends at Tech. The famed Ratio is evening out. The campus is growing in size. And in a significant change from previous years, more and more students are interested in applying their technical skills to the study of public policy issues. Fewer students are satisfied with spending their lives in a laboratory, and more of us want our careers to have a tangible and unmistakable effect on people's lives. I want to describe a few of the graduate school options for this growing group of students.

As a senior in Environmental Engineering, I am interested in researching the political ramifications and difficulties of today's most pressing issues in environmental engineering, particularly with regards to the developing nations of Latin America. My approach is hands-on, and my career will probably involve work with international organizations such as the United Nations or the Inter-American Development Bank. Contrary to the beliefs of many people I have encountered, this does not involve a "softening" of my "hard-science" technical focus. The problems of international environmental policy are extremely complex, their scope enormous. I believe that working in this area is not only one of the most admirable and laudable options for a young engineer to choose, but it is also one of the most intellectually challenging and fascinating.

Around the country, excellent graduate programs have arisen to respond to the growing demand for professionals with a strong technical background who wish to work in public policy. These are not political science programs; students remain within their technical fields and study policy implications of technology. Many Techers are not aware of the existence of such high-quality interdisciplinary programs, and several

of you have asked me about them. I want to take this opportunity to call on all Caltech undergraduates to consider such an interdisciplinary advanced degree. I believe that many of you will find the work fascinating and the job opportunities attractive, and I believe that the world will be a better place for it! Think about it.

Although the following is by no means a comprehensive list of these graduate degree programs, it is a start. I know first hand that qualified Caltech graduates will receive very serious consideration at all those listed below.

1) *The Technology and Policy Program* at the Massachusetts Institute of Technology "educates men and women for leadership in the important technological issues confronting society. [It prepares its] graduates to excel in their technical fields, and to develop and implement effective strategies for dealing with the risks and opportunities associated with those technologies... In addition to providing analytic skills, it thus promotes the capacity to understand conflicting values, to develop constituencies, to negotiate solutions—in short, to implement policy. The program explicitly prepares students for leadership."

Many of the program's students concentrate on issues concerning the environment, energy production, manufacturing and international competitiveness, computers and telecommunications, bioengineering, commercial use of space, materials selection, and robotics and automation. They offer both M.S. and Ph.D. degrees in Technology and Policy. For more information, contact the Technology and Policy Program by mail at Room E40-251; MIT; Cambridge, MA 02139; by telephone at (617) 253-7693; or by e-mail at tpp@mit.edu

2) *The Department of Engineering and Public Policy* at Carnegie

Mellon University "addresses problems in technology and policy in which technical issues are of central importance... [and] educates skilled men and women at the doctoral level to be leaders in research on problems in technology and society... In preparing for the Ph.D., graduate students take engineering courses in one or more of the traditional engineering or science departments of the university... Through [their] doctoral studies, [they] are interested in developing improved understanding, better analytical tools, and generalizable insights which will support improvements in policy research and analysis in the future. [The faculty] are a mix of engineers and social scientists."

Their major programs of research are in the areas of energy and environmental systems; telecommunications policy; risk analysis and risk communication; technological innovation, manufacturing, and industrial policy; engineering education and manpower; international peace and security; and computer-based tools for quantitative policy analysis. The program offers both M.S. and Ph.D. degrees. For more information, contact the Department of Engineering and Public Policy by mail at Carnegie Mellon University; Pittsburgh, PA 15213-3890; or by telephone at (412) 268-2670.

3) The Department of Engineering-Economic Systems at Stanford University "is a problem-solving discipline applying engineering principles to application areas beyond those traditionally considered part of engineering. EES graduates are trained to think about problems in ways that others do not... While [their] students are highly skilled in mathematics and methodology, they are motivated by the applications rather than by purely abstract extensions. Many EES graduates have become leaders in technology-based businesses. The EES program is attractive to engineering professionals

because it enhances their technical training with the conceptual framework needed to analyze problems of production, investment, marketing, and strategic planning in a technical environment."

Their research programs include decision analysis, economic analysis, energy modeling and analysis, intelligent systems, mathematical system analysis, and science and technology policy, which includes telecommunications and information policy, national security policy, energy and environmental policy, and medical policy. The program offers both M.S. and Ph.D. degrees. For more information contact the Admissions and Awards Committee by mail at the Department of Engineering-Economic Systems; Terman Engineering Center; Stanford University; Stanford, CA 94305-4025; by telephone at (415) 723-4168; or by e-mail at Susan.Clement@forsythe.stanford.edu.

4) *The Technology and Human Affairs Program* at Washington University, Saint Louis offers a Master of Arts Degree in Technology and Human Affairs. The program "is designed for students who place a high priority on the social relevance of technology and who wish to focus their skills, with that orientation, on one or more of the central areas of research and teaching in the program." Those areas include energy and bioresources, environmental management, science and technology policy, technological innovation, and technology and international development.

The program's professors come from the disciplines of economics, political science, and engineering. They offer a potential interdisciplinary graduate certificate in international development. For more information, contact the THA Program Chairperson by mail at Washington University; Campus Box 1106; One Brookings Drive; St. Louis, Missouri 63130-4899; or by telephone at (314) 935-5456.

Letter to the Editors

Del Mar Traffic Becomes Hazard

Since the Pasadena traffic engineers have reduced California Boulevard to two lanes of traffic, and since they cut down the use of San Pasqual with "No Turn" signs, the traffic on Del Mar has increased heavily in volume.

For years, I have watched Caltech students display their agility with broken-field running across the six-lane-wide street with its four lanes of traffic that, at times, exceeds fifty miles an hour.

Recently, I watched the police deal with a bicyclist who had been hit on the corner of Michigan and Del Mar. Several students were also watching and commented on how dangerous the street had become. I asked whether they had raised the question with Security. They said, "Yes," but nothing happened.

In addition to some shudderingly close calls, I observed a woman barely make it with her baby carriage which she lost control of and tipped over on the far side. Fortunately, her baby was spared in.

If students really want it, a pedestrian activated cross light could be installed on Chester, midway between Wilson and Hill—Speak up!

Cordially,

Ned Munger
Professor Emeritus

Please send submissions for letters to the editor to The California Tech, Caltech 40-58, Pasadena, CA 91125, or by electronic mail to editors@tech.caltech.edu. Deadline for submissions is Monday at 5pm on the week of publication.

The editors reserve the right to edit or refuse to print any letter for any reason.

Y News

by Sam Webb

Welcome back to the Y News! After a short recess, it's back, new and improved. Well, at least it's back. Coming up next month on May 15th is Internation Day! I-Day is an afternoon dedicated to help culture us Techers about the customs and foods of other cultures. As always, there will be plenty of food and entertainment. If you missed this week's planning meeting and want to help out or participate, be sure to drop by the Y lounge at noon on May 4th.

The Y will also be sponsoring a backpacking trip in mid-May. The destination is still to be determined—depending on how much snow we get in the mountains this week—but is sure to be a blast. If you enjoy getting out of Tech and the smog of the city; get into the wilderness. This trip won't be too tough, so even if you're inexperienced, don't miss it.

And to wrap up the News this week, we'll end on my personal favorite. Yep, Boffo Bonecrusher Broomball XV is back! It's scheduled for May 21st, and sign-ups will go up on the 9th. Don't forget to sign up early, since space is limited and guaranteed to sell out. If you have any questions, don't hesitate to stop by the Y or call Chris at x6194.

Attention, Class of 1995!

NOW is the time to make suggestions to the Commencement Committee (new & improved) about who you want to speak at the Commencement Exercises next year. Anandi Raman, Junior Class President and Penny Sherman, ASCIT Upperclass Director at Large, will be visiting each house to gather opinions. Ruddock and Ricketts have already been surveyed this past week, so if you missed the meeting, please e-mail your suggestions to ani@cco or call Penny at x6203. Meetings are scheduled for the five remaining Houses immediately after dinner in each of the Houses' main lounges as follows:

Page House	Monday, May 2
Lloyd House	Wednesday, May 4
Fleming House	Monday, May 9
Dabney House	Wednesday, May 11
Blacker House	Monday, May 16

Please tell all of your off-campus friends to attend at least one of these meetings. It's important that we get a good idea of who's popular as a speaker. Questions? Email Anandi or call Penny. Suggestions made so far include James Earl Jones, Salman Rushdie, Jocelyn Elders, Patrick Stewart, Peter Gabriel, Thomas Pinchin, and lots of others. Come and put your two cents in as well!

Leadership Seminar Enjoyed

by Elwyn T. Uy

Last weekend, about twenty Caltech students participated in the annual Leadership Institute Program, a one-and-a-half day seminar sponsored by the Caltech Y and the Industrial Relations Center. Kathleen Terry, founder of Participative Management Systems, led the seminar. Terry regularly conducts similar courses for corporations and national and international conferences. The program itself was held at the Industrial Relations Center.

The workshop focused on three "key" areas in effective leadership: leadership style, team building, and communications. To impress these ideas on us, Terry conducted quite a few interesting exercises.

One such exercise was the Space Tower Exercise. Terry divided us into three teams. The objective was simple: design a tower out of Legos which could be built most efficiently. We were given "incentive dollars" according to several graphs given to us. The amount of money the team could acquire was directly related to the height, number of pieces used, and the time required to assemble. During the activity, each team had a designated observer—someone just to watch how the team worked. At the end of the exercise, we discussed the good points and some problems in each group.

The "Thomas-Kilmann Conflict Mode Instrument" was a test we took that I—and most others whom I talked with—found particularly interesting. The test gives the taker a glimpse of what kind of instruments he uses in situations of conflict, such as competing, collaborating, compromising, avoiding, or accommodating. Yet another interesting test was the lion-octopus-golden retriever-beaver personality test. The most entertaining and educational benefit, at least for me, came from discussions about the results with Terry and other students.

Other things we covered included leadership styles (dictator, inspirational, democratic, and passive), leading a meeting, facilitating a meeting, and reaching a consensus. Other activities that I found interesting included the solving of a murder mystery, and reaching a consensus in the assignment of guilt in a tragedy.

I loved it! Kathleen Terry did an excellent job. The seminar was informative and never dull. I learned a lot about leadership in general, and also much about myself. It was also lots of fun, and I met some pretty interesting people. I would encourage anyone who ever has an opportunity to attend this program to do so. Sure you'll be there on a Friday night and a Saturday, but it'll be a blast.

A Liberal's View on Homosexuality

by Vicki Brown

The reaction to Patricia Schwarz's article of two weeks ago was very interesting. It made me realize a few things. And yes, I deliberately chose the same title for my article to make a point (*and we didn't change it this time*—eds). Gosh, I never realized people could be so picky! You gotta realize that people, straight or otherwise, accept (or not) homosexuality for reasons of *their* own—reasons that are powerful to them and that make the most coherence. If Patricia's views on, well, life are over 50% political, then it makes sense that an article by her entitled "A Liberal's View of Homosexuality" will be about a (politically) liberal's view on homosexuality. It's just the same whether another person looks at it from a "sin and redemption" standpoint, an "it's a choice" standpoint, a "they/we were born that way" standpoint, or from an "it's a fad" standpoint. For selfish reasons, I just care that they accept homosexuality! I think the title was appropriate as was the content of her article. There is a diversity of views on homosexuality, and all of them are valid. To tell the truth, had it been an article on going to hell or what not <yawn>, I would have felt the same way. It's a reflection of the readers' own interests, though, and not on the article itself.

Free love also has the hippie connotation of sex, and I won't discard that element of it here. Sexuality, in general, means to me who you can be attracted to. Sexuality and love are closely intertwined and symbiotic: I cannot feel sexual if there is an unresolved conflict between me and the other person; I cannot feel emotionally attached to a person if I am repulsed by their body. Conversely, great sexual attraction can make up (at first) for many personality flaws. If a relationship is to be true and long lasting, the elements of physical and emotional attraction must both be there and building on each other.

Now for the meaty part, where I live up to the title of the article. Up until now, I've spoken in a harmless radio-talk show-psychologist, valentine card prose, girls' movie fluff, romance novel stuff fashion. It's trite. It's been said over and over, and cynics have made fun of it since John Donne. Not that I'm going to say anything revolutionary from here on, either. Just that I don't think it matters what sex each person is if they meet my other criteria.

Just that. If two women love each other, then it's the same love that a heterosexual couple feels. If two men have been monogamous for ten years, then they experience many of the same feelings that married couples do. And if they have children they give them the same love and support that a mommy and daddy do. And if one partner dies of AIDS, it's just as tragic as if someone's wife had died in a car accident.

They are the same emotions; therefore, they deserve the same treatment by society. If you recognize the emotions of love, commitment, maternal/paternal instinct, and sexual attraction that every couple feels, then you can recognize them in a same-sex couple, too. You can recognize two people of the same sex as a couple. Period. You can also grant them equal rights under the law. You can grant them the blessing of marriage. You can allow them to be good

parents. You can let one take paid time off from work when the partner dies so they can take care of funeral arrangements and to mourn.

Currently, there are people working to get Caltech and JPL to change their policies to include gay and lesbian couples. We're asking for many things that we shouldn't have to ask for. We want paid time off when a domestic partner (DP) dies; relocation of the DP; visitation of the DP when their partner is on extended out-of-area assignment; use of the credit union; tuition support for the children of DPs accepted to Caltech; payment of a safe arrival call and phone calls when on extended out-of-area assignment; invitation of the DP to service and retirement awards; payment of the DP to come with new employee on house-hunting trip plus subsistence allowance, transfer, lawn mowing, and the like while away; and other benefits that happen now if you replace the words *domestic partner* with *spouse*. More benefits, called hard benefits—the previous were "soft benefits"—would be the inclusion of DPs in health and dental plans, life insurance, and the Dependent Care Spending Account (You have money from your salary tax-deductibly diverted to this account for known care expenses).

At the heart of every item in that long list is one thing: a gay or lesbian couple that should be supported by society just as much as a heterosexual one. That is my conclusion, reached by my own arguments. It is my view on homosexuality, and it is liberal because of how it opens up the definition of who may be in love. Further articles will deal specifically with the proposed changes, and hopefully, others will soon write about how they view homosexuality, too.

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TONIGHT'S ASCIT FEATURE:

"PROFOUNDLY MOVING."

—Janet Maslin, THE NEW YORK TIMES

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PG-13



Friday, April 29
Baxter Lecture Hall
7:30 & 10:00 pm
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NEXT WEEK DON'T MISS:



CETF News

by the Caltech Environmental Task Force

Talk Today

At noon today on Winnett Quad, Robert M. Zweig, M.D. will speak on the possibility of having a Hydrogen fuel economy rather than one based on petroleum. Hydrogen is a much less polluting fuel than the fuels conventionally used in energy production, and there are many examples of using hydrogen as a power source. Hydrogen power has been used by utility companies, for residential heating, and as an energy source for consumer combustion based and electric vehicles. Dr. Zweig will talk about how we, as scientists, can promote the integration of hydrogen fuel technologies into society as an example of the effects our position in society can have.

Caltech Environmental Improvement

CETF urges everyone to make double-sided photocopies whenever possible. Some photocopiers do not have a "double-sided" option; in this case, it is fairly simple to figure out the proper orientation for paper insertion such that the second side comes out correctly. Students: if you know of Caltech courses in which the handouts are single sided, please request that the professor (or TA) make double-sided copies.

L.A. Area Environmental Concerns

The California Air Resources Board (CARB) is holding a two day public meeting to discuss a proposal for relaxing the timetable of the CARB rules. The CARB rules help

impose restrictions on the sale of automobiles that don't meet a set of strict emission standards.

The effort to change the rules is being paid for by the Big Three auto makers. They claim that technology will not be advanced enough to meet the 1998 deadline after which two percent of all sales must be Zero Emission Vehicles (ZEVs). This claim is, at the very least, puzzling since it is the Big Three companies themselves that have bought up nearly all the ZEV technology!

The meeting is scheduled for 9:30 am, Thursday and Friday, May 12 and 13, at 107 South Broadway in Los Angeles in Room 1138.

Transportation at Caltech

Each spring, everyone at Caltech receives the Caltech Commuter Services Transportation survey. To satisfy South Coast Air Quality Management District regulations, Caltech must demonstrate that its Average Vehicle Ridership (AVR) is 1.5 persons/vehicle or greater. In addition, at least 75% of the employee population must respond to the survey for the results to be considered valid.

The difficult question surrounding the transportation survey is this: Should Caltech be allowed to count students who live on campus in student housing as commuters? Currently all students—both undergraduate and graduate—are counted as part of the commuting population, and the survey thus vastly underrepresents the proportion of single drivers who commute to Caltech on a daily basis. One argument in favor of including the student-housing population is that Caltech has indeed provided afford-

able housing close to campus, such that a long commute is not necessary for most students. One argument against the inclusion is that it all too effectively masks the real problem that when people drive to Caltech, they most frequently do so as single drivers.

If you have questions about alternative ways to commute to Caltech, such as how to join a car pool or van pool, please contact Caltech Commuter Services, Mail Code 111-6. We at CETF also ask you to seriously consider bicycling to work each day if you only live a few miles away.

Featured Upcoming Event

On Monday, May 9, at noon, Mike Clemens will talk on "Rainforest Conservation Through Social Development in Pacific Colombia." The talk will be held in Judy Library, 110 Baxter Hall.

Ward Valley Update

On Earth Day, many people expressed interest in responding to the dangers presented by the proposed low-level radioactive waste facility at Ward Valley, CA. At noon today, Friday, 22 April, there will be a table at Winnett Quad where you can write letters, or you can address your comments to:

Senator Dianne Feinstein
Hart Senate Office Building, Suite 331
Washington, D.C. 20510-0504

or
Secretary of the Interior Bruce Babbitt
18th and C Streets, NW
Washington, D.C. 20240

If you would like more information about this issue, call Charles Witham at x4651.



South Africa

A car bomb exploded near offices of the African National Congress Tuesday in Johannesburg. Nine were killed in the explosion, and approximately two hundred were wounded. The explosion happened just two days before South Africa's first free election. Although no one or group has come forward, many believe the culprits are the far-right-wing whites who engineered the deadly attack.

El Salvador

Armando Calderon Sol won the presidency of El Salvador in the country's first postwar elections. The right-wing politician defeated the "leftist coalition of former guerrillas."

United States

Former President Nixon was buried on Wednesday in his home town of Yorba Linda. Four former presidents and current president Bill Clinton attended the funeral.

Bosnia

Bosnian Serb rebels retreated on Sunday before the threat of UN troops arriving in Gorazde. The rebels left in the wake of their retreat, burning villages and destroying a water plant.

Japan

Former Foreign Minister Tsutomu Hata was elected Japan's new Prime Minister by the lower house of Parliament.

England

Secretary of State Warren Christopher and British Foreign Secretary Douglas Hurd announced that the United Nations, the United States, Russia, and the European Union will seek to put a permanent end to the strife in Bosnia. This joint diplomatic initiative is the first time that all four have met concerning this matter. It is hoped that a concerted effort will make progress in working towards a solution to the misery in Bosnia.

FOR THE REMAINDER OF THIRD TERM, A SIGNIFICANT PORTION OF EACH MEETING OF THE ASCIT BOD WILL FOCUS ON ONE SPECIAL TOPIC. THE AGENDA IS SHOWN BELOW:

- 4 May - BOC Bylaw Proposal
- 11 May - Club Funding Policy
- 18 May - Donuts and Election Procedures
- 25 May - Faculty-Student Committees
- 1 June - House Funding Policy

STUDENTS ARE INVITED TO SHARE THEIR VIEWS ON THESE ISSUES. BOD MEETINGS ARE ON WEDNESDAYS AT 7:30 PM IN THE ASCIT OFFICE, SAC 64. COMMENTS MAY BE MADE AT THE BOD MEETING OR TO A MEMBER OF THE BOD AT ANY TIME. PLEASE TAKE THESE OPPORTUNITIES TO SHARE YOUR OPINIONS WITH THE BOARD OF DIRECTORS.

ASCIT NEWS

- The Board of Directors **meets** weekly, every Wednesday, at 7:30 PM in the ASCIT Office, SAC 64. Individuals with **new business** should come at the beginning of the meeting. Meetings are **open** to all members of the Caltech community.
- **Clubs** are reminded to pick up their third term funding this term. Contact the ASCIT Treasurer or come to the weekly BOD meeting.
- Please see the box in the *Tech* which gives the **special topics** to be discussed in upcoming meetings. Major progress, possibly a final decision, will be made on each issue as it comes up. If you would like to share your opinion with the BOD or are interested in the issue, please **attend** the appropriate BOD meeting or **contact** a member of the BOD at any time.
- **Thank you** to everyone who submitted ASCIT Teaching Award nominations.
- The BOD is making arrangements with the Houses to **visit** each House third term for dinner and to discuss the many issues currently before ASCIT.

- The Budget for the current year has been finalized.
- The Directors can now be reached at the following **e-mail addresses**. All end with @ascit.caltech.edu. President: *pres*; Vice-President/BOC Chairman: *vp* or *bocchair*; Secretary: *sec*; Treasurer: *treas*; IHC Chairman: *ihcchair*; Dir. for Academic Affairs: *acaddir*; Dir. for Social Activities: *socdir*; Dir-at-Large, Upperclass: *ucdir*; Dir-at-Large, Freshman: *froshdir*. The BOC Secretary's e-mail is *bocsec*. E-mail sent to the following **groups** will be forwarded to every member of that group: *bod*, *boc*, *ihc*.
- Due to the increased **length** of the ASCIT BOD Minutes, they will no longer be published in the *Tech*. Copies of ASCIT BOD **Minutes** are available by mail free of charge **on request** to students, faculty, and administrators. Requests should be sent to Secretary, ASCIT 64-58. The Minutes are posted to caltech.ascit.announce, and a copy is available in every undergraduate House lounge.
- Please bring **15 copies** of handouts to meetings of the Board of Directors.

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A Proposal to Change ASCIT

by Steven Fought

There has recently been a lot of discussion on what roles ASCIT and the IHC should play in student government at Caltech. Some people have been saying that ASCIT should lose its power because it is biased and ineffective. Others say that ASCIT should be left as it is. I would like to suggest a third solution. Let's change ASCIT to address the real problems and concerns of students. I will try in this article to outline what those problems are, and then suggest how we can make ASCIT do what we need it to do.

During the time that I have been a student here, most of the people I have discussed student government issues with have traced the current problems back to one of two incidents. Older Ricketts House members cite the garter contest at Apache in 1989. Most other people who have been around long enough to remember point to the "Dabney Incident" or the "FIPI" of the fall of the same year. Both of these incidents involved an unfortunate combination of public sex acts, alumni, and Dr. Louie Wilde, who was MOSH at the time. Dr. Wilde had been a popular choice for MOSH, but his relationship with the students deteriorated for a variety of reasons. The Dabney incident resulted in a number of PNGs, the normal battery of post-traumatic mandatory house meetings, and Dr. Wilde leaving his office. It also yielded the infamous "We will not negotiate with teenagers" Faculty Board meeting minutes, that still color the feelings of some

student activists, and are good reading for anyone interested in student/faculty relations.

Before the Dabney Incident, there were somewhat more interactions between students and faculty at Caltech, a fact referenced more than once in the minutes I mentioned above. Students at the time expressed an "end-of-an-era" view of faculty interactions. Most current undergraduates wouldn't have the same opinion. Was it that Caltech couldn't recover from the Dabney Incident? Did we try to recover? The answer to both questions, I think, is no. Let's put that point aside for the moment.

I trace another problem back to 1989. The new class that fall saw a dramatic increase in the percentage of undergraduate women on campus, and in the opinion of many faculty and student alike, a general decrease in the "quality" of the student body. The historical interpretation of this opinion is that it is simple sexism. I don't agree. When I look around at the student body after that first class and compare it to the people I know who came before, there was a dramatic change. However, as far as I can tell, there is no detectable difference in the quality of men and women. What happened?

Well, the increase in the percentage coincided, rather unfortunately, with other changes in the Admissions Office, including the elimination of interviews. The reasons for this particular change have been explained over and over. There was, apparently, a combination of a lack of interest on

the part of the faculty in doing interviews, and a concern over fairness because better spoken faculty interviewers could be better advocates, etc. Fairness, in this case, is a euphemism for "immunity to liability." Using quantifiable data such as test scores and grades is more clear-cut than "subjective and unreliable" interviews.

Using quantifiable data has not, however, removed subjective information from the process. The students who fall in the middle (the ones you actually have to decide to accept or reject) look remarkably still similar to one another. But, since these students are "equivalent" in the quantitative analysis, the Admissions Committee now feels safe introducing subjective information into the discussion. So, the only students whose admission would have been questioned under a selected using subjective criteria in either system.

What criteria are now used? Lacking an interview, they use what they have. Whether you can play the trombone, do work in your community, or study the Mayan calendar in your spare time (my own hook) isn't really going to affect your academic life at Caltech, but this information is used none-the-less. Recently, the Admissions Committee has been trying to "reform" itself because of the perceived, if not admitted, decline in the quality of the student body. The latest method involves application essays pertaining to science research and ethics. Not only is the type of student who used to attend Caltech unlikely to write an

insightful essay on why they should be a scientist, but there is little to believe students will be honest in what they write. It is comical that the students being trusted in this sense are the same ones the admissions committee is so convinced will sue Caltech if given the slightest opportunity.

I suspect what happened in the late eighties, either consciously or subconsciously, was that when the Institute decided to admit more women there was a realization that finding women who had a character similar to that of Caltech students at the time (not ability, mind you, but character) would be very difficult and cost a significant amount of money, so instead they simply modified the criteria for admission. The result was that, over a shockingly short period of time, we went from targeting people whom the faculty thought would make good scientists, to admitting the traditional Stanford/Harvard set. Are these students "worse" than those who were admitted before? Probably not. Are they as interested in being scientists? Probably not. What's wrong with this?

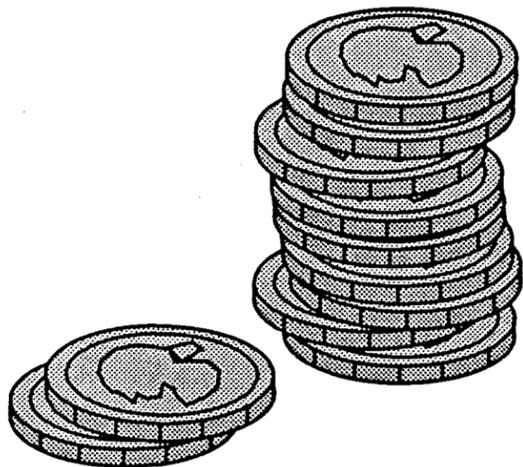
Well, what's wrong with this is that the Caltech faculty is unprepared to educate these new students. The professors I have spoken to are usually willing to admit that most members of the faculty here don't take classes seriously. Caltech is a Research Institute, and the advantage of getting a degree from here is that you can do undergraduate research. This is certainly not a secret. But the students we are admitting now don't necessarily want to live a monastic life, spending all of their spare time between classes doing research. Hence SURE, which creates ten week summer re-

search programs (many professors expect the first full year of the research of group members to be unproductive), many of which are only research in the sense that you are doing work for a faculty member (examples on request). The result of all this is that much of the faculty have lost what respect they had for undergraduates, and the students have, in general, retreated into the safe structure of the houses.

Remember that the Dabney Incident occurred at the start of this isolation. This was a nasty coincidence that led to an unfortunate decision.

The Dabney Incident, for one reason or another, caused or justified a turning point in the philosophy of the Student Affairs office. Historically, the faculty, represented by the MOSH, have had direct interactions with students. This was the most important check on the actions of the faculty with respect to students at Caltech. The faculty board could disagree with the MOSH, but his opinion could not be dismissed because he was tenured. It was an extremely hard job, probably too hard, but the way in which it was modified was a mistake. Rather than adjusting the amount of work, the position was eliminated.

There could have been a good solution to this problem. The Director of Residence Life could have been an assistant to the MOSH, an advisor on what was illegal, a facilitator of day-to-day operations. Instead, Kim West is the MOSH, except she is a staff member with a very different job description, which seems to be "minimizing trouble," which, of course, means limiting liability. Whether or not you like Ms. West personally is irrelevant, as she is effectively a representative of the Pasadena, Califor-



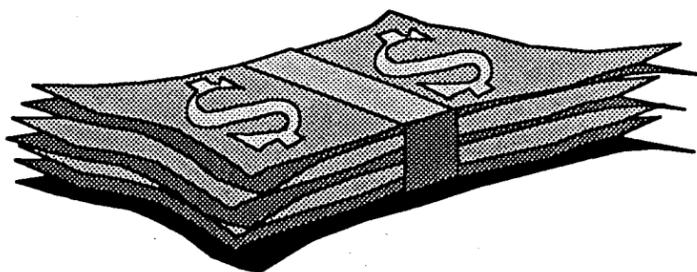
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nia, and Federal legislatures on campus. The responsibility for our care has been abandoned by Faculty and placed in the hands of the Government. The excuse is that everyone is suing everyone else, and Caltech has to protect itself. There is a clear example of why this is not correct.

There is a state law pertaining to what kind of heating elements can be in student rooms. Hot plates are out, and students have been asked to remove them the past. Soldering irons are also out, but each freshman taking the practical track of Physics 1 is handed one for lab work. No laboratory rooms are provided. What makes the two situations different? When a Safety office representative came to Ricketts to show the fire safety video, I brought this up. He made it clear he thought it was an extremely bad idea, and we should ask the Physics department to stop. I asked him whether he would go to Physics department and tell them himself. He repeated his previous statement. He wasn't willing to tell the Faculty they couldn't do something, even though he didn't think it was safe.

This example shows two things. First, laws can and are disobeyed at Caltech, and the sky does not fall. Second, the faculty and administration are willing to break laws for their convenience, and not willing to let us do the same under similar circumstances. Contrary to current public opinion, many other universities have made a science out of looking the other way and the MOSH used to bail students out of jail when necessary. What has changed is not just the increase in litigation, but also the decrease in interest in our well-being. The government is now in charge because it's easy to put them there when you are distant from the affected people. So we are subjected to laws that would probably have been ignored in the past. I think this is cowardly. If the government made a law Caltech disagreed with concerning how grant money could be spent (as it did recently), Caltech

would actively fight it (it did). One gets the impression that if the government decided it was healthy for students to stand on their heads for 15 minutes before bed, the DRL would hire someone to make sure students were doing so.

The students' response to all this has been to direct more energy into the houses, which have become the social totality of many students' lives. I have been outspoken about the house system in the past and won't bother here, except to note that some of the energy directed towards the houses could be better used elsewhere. The problem much larger than the houses is the glorification of apathy. Yes, it is hard to get the administration and faculty to improve things, but it is not impossible, and each attempt increases their knowledge of our concerns, and our knowledge of theirs.

We have fallen into a pattern at Caltech. Things students were free to do before are being taken away because of concern over litigation, and no new activities or interactions are replacing them because of Caltech's disinterest or inability in listening to students. There are positive measures that could be taken that would not even effect the Faculty, but that would still require permission from the them or from the administration, and will thus never happen without an unreasonable amount of effort on our part, because the faculty doesn't listen.

In essence, the problem is that no one is charged with listening to our concerns and reporting them without interpretation, and thus our concerns are being minimized or avoided by the Student Life office. The onus is on us for everything, and students who want change must tromp from office to office for literally years (examples on request). Going to the Dean does not help. Going to the "New MOSH" certainly doesn't help (my experience with Dr. Wales is that he will very patiently explain to you why you are

wrong and the faculty is right, and then do nothing). In order for change to occur more easily and on a more regular basis, the undergraduates at Caltech must gain a voice that can represent them effectively, and construct a relationship with the faculty and administration that involves hearing a "yes" or a "no" to our proposals in some finite, reasonable period of time.

Without such a forum, where do we go to cause improvement? When I was on the Student/Faculty Conference Follow Up Committee my freshman year, we did a large amount of work to try to distill the conference into a set of proposals, and I think we succeeded. We had a short list and a long list of our ideas. It was presented to the faculty through the Faculty Board, and as far as I can tell it fell unread from our copiers. The failure was not in the conference itself, but in the lack of a structure that allows change at Caltech. Unless there is some dramatic alteration in Student Affairs here, the current conference will suffer the same fate.

Most of the recent talk of changing ASCIT has involved making it do almost nothing. The objection is that the money we give them is not being allocated fairly. I understand why people are concerned, but personally I don't care if the BOD is using my \$25 to have group sex in a jacuzzi filled with cocaine. The real offense is what they have not done to fix the students' problems, and the minutia of inter-house politics pales in comparison.

I have tried to demonstrate that there is currently a fundamental problem with the interactions between undergraduates and other groups at Caltech. I've also tried to show that the solution is not further isolation in the houses, or hoping things will get better. The solution is simply to change ASCIT into a student government that represents us as students to the rest of campus. Lets do it.

To date, no student I've talked to

really cares about preserving ASCIT in its present form. It's clear that it doesn't do much. Further, I think even students disinterested in student government wouldn't particularly mind someone else doing it for them, and I think there are enough interested people here to support an effective student government.

How do you conquer apathy? You make an office with a responsibility, and someone will rise to fill it. Apathy reigns among undergraduates, but the club money is still allocated, and elections still take place. If an office is charged with a duty, I believe it will be done, as long as the duty isn't too odious.

So, assuming that we can change ASCIT to represent ourselves and promote organized change, what are the specifics? How much should the house system be involved? What offices should be created, etc? Each undergraduate could answer these questions differently, and my opinions here are no more relevant than anyone else's. Instead of providing my irrelevant view of what ASCIT should become, I would like to suggest an organized way in which the opinions of many people could be discussed, evaluated, and proposed, resulting in a new ASCIT that could start to deal with the important problems.

First off, upon reading this, an interested undergraduate should put a sign-up on the window of the ASCIT meeting room for people who want a new ASCIT. After a few days, as many of you as have time should get together and get enough names on a petition supporting a conference to decide how ASCIT should be changed. You should also think about how that conference should be handled. Here is my suggestion:

Each house selects some members to represent it. There should also be enough at-large representatives, volunteers selected by the organizing group, to allow opinions from groups unrelated to the houses. These representatives should discuss what should be done with the student body, and then

there should be a large weekend meeting to flesh out a plan (I think Capra would be the perfect place for such a meeting). Then, with plan in hand, the students should return to campus and present it for discussion. After the problems have been hashed out, there should be another weekend meeting to address the concerns raised. Based on the revised plan, the members of the conference should elect an appropriate subset of themselves to finalize and complete the new bylaws. Finally, there should be provisions to allow changes to be made easily if there are problems.

Michael Brundage's "A New Student Government" should be kept around for reference. In his section under "The Honor System," he repeats the same line I've always heard here. Teachers are special. We're "intelligent, creative, and curious." The only thing I strongly disagree with in his document is "Just because we're changing things it doesn't mean we need to throw everything away and start from scratch." I think that's exactly what we need to do. Let's not use our own example any more than that of other schools' student governments. If we're intelligent, creative, and curious, it's time to put our intellects where our mouths are and fix our problems.

I am have finished my coursework at Caltech and am not currently registered, but I would like to help in this process in any way I can. I will start by offering up to \$1000 in support money towards the development of a new Caltech ASCIT. I will use the same criterion ASCIT does now. Look everywhere else for money, and if it's not there, come to me (with a reason, of course).

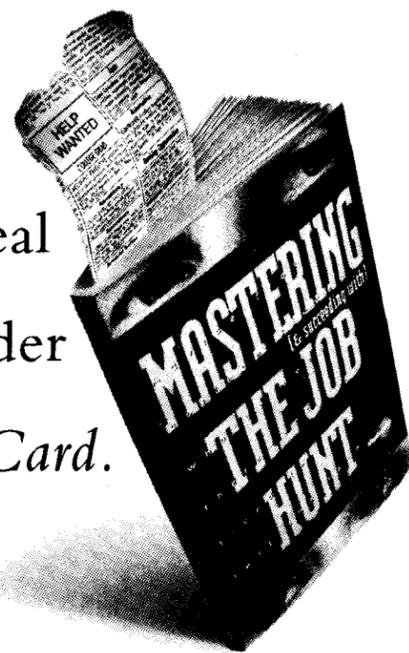
Times when change is possible do not come often. I believe this is such a rare time, and I am writing this to try to provide motivation for constructive action. Please think about how you can help to give the undergraduates a voice at Caltech.

If you have comments about this article, e-mail to keeper@lighthouse.caltech.edu

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Games & Puzzles

Keys and Locks

by Wei-Hwa Huang

Say you decide to open a business with two other people. All three people have an equal share, and you decide to put your money in a safe. Let us assume for the moment that all the safes we are talking about are equipped with simple lock-and-key design; that is, the safe has some number of locks on it and all of them needed to be unlocked to open the safe. Multiple copies of lock keys can exist. Back to our situation. There are two typical scenarios. First, you could have one lock on the safe and give everyone a key; this way, any person could open the safe. Alternatively, you might have three locks on the safe, a different key to each person, and therefore, a requirement that all three people must be present to unlock the doors. The former is a more trusting relationship, while the latter is a bit more conservative. How about a happy medium? Most people don't think of this, but if we made two copies of each of the three keys in the last problem (call them A, B, and C), we could distribute them AB, AC, and BC, creating a situation where any two of our people could open the safe without needing the third. Needless to say, we can't do this with less locks. With three locks we could also have a company with one president, one vice-president, and two secretaries, where the only allowed combinations are: ① president and vice-president; or ② president and both secretaries. Puzzle 1: How do we distribute the keys? A more complicated situation is for seven equal shareholders, any three of which should be able to open the safe. A solution is:

ABCDGHIJLMNOQSTUWXYZ
 BDEFIJLMQRSTUVWXYZ
 ACDEFHJLNOPQVWXYZ
 ABCDEFGKLMNPQRTVWY
 EGHIKLMNOPQRSTUWXYZ
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However, this isn't the minimum solution. Puzzle 2: What's the longest word with no duplicating letters that could get its keys eliminated from the previous answer and still satisfy the conditions? Puzzle 3: How

about a scenario with three presidents and seven vice-presidents with these constraints: ① Any two presidents can open the safe; ② any four vice-presidents can open the safe; ③ any single president can open the safe with the help of any two vice-presidents; and ④ no smaller group can open the safe. What's the minimum number of keys needed?

Last Week's Answers: Ten-digit Numbers

- 6,117,215,160 is the largest number than can be formed by multiplying the ten digits in groups of three, three, and four; that is, $9410 \times 852 \times 763$.
- (818)-395-6153 is the phone number of *The Tech* office.
- The number is 6,210,001,000, with 6 zeroes, 2 ones, 1 two, and 1 six. Can you find the solutions for other digits?
- 3,816,547,290 is the only such number. (Yes, 3,816,547 is divisible by seven.)

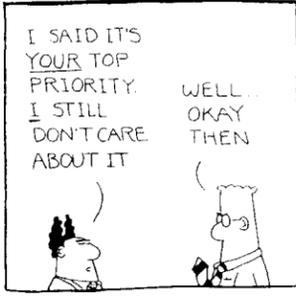
Contest Corner Results from April 15

The winner of next-to-last week's contest is David Wang. He will soon receive his \$10 check in the mail for his winning entry, ANAGRAMMATICAL, which anybody could have found as the ninth word in the second sentence in the third paragraph of that article. His was the only correct solution out of a whopping two submissions.

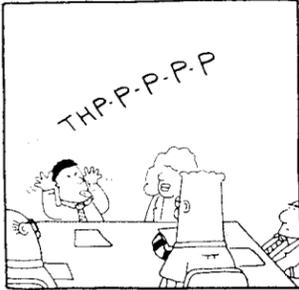
This Week's \$10 Contest

Answer the three puzzles in this week's column. The submission with the largest number of puzzles solved is the winner; in case of a tie, the one who solves the most higher numbered puzzles wins. Any further ties will be broken by random draw.

To submit, send your solutions by e-mail only to gp@tech, and how you may be contacted by phone and by mail. Entries must be received by May 4, at 8:00 p.m., 1994. All members of the Caltech/JPL community are eligible, except for Wei-Hwa Huang. (Why is the deadline earlier? I'd like to cut the delay down to one week.)

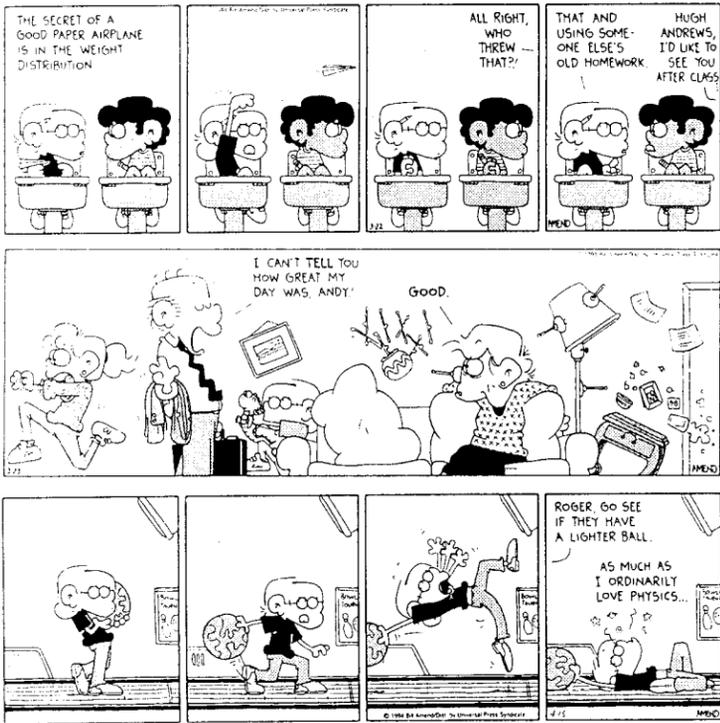


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Faculty-Student Committee

Appointments: The IHC's Point of View

Due to technical problems with the last issue of The Tech, this article was not printed in its entirety. The complete article appears below. —eds.

by the IHC
The ASCIT Board of Directors has an article in [the previous] issue of *The Tech* arguing that they could do as good a job as the IHC in appointing students to the Faculty-Student Committees. We, the IHC, feel that we are better suited to the job because we have certain unique attributes:

- >By its very nature, the IHC has enforced diversity. It is structurally required of the IHC to have a wide cross-section of opinions, experiences, and views of the Caltech student body. This cross-section results in fairer appointments.
- >The IHC is made up of representatives of the Houses but acts collectively for the good of the community and the student body as a whole. This means that the IHC will not act in the best interests of a specific house when the campus at large is the primary concern of the issue at hand.
- >The Presidents are very accessible because they are widely dispersed and can be easily found by a large portion of the student body.
- >The Presidents are directly responsible to their constituents and are held accountable for their actions on a daily basis. Thus, everyone has someone to go to if they want to express an opinion or concern about an issue.
- >On the IHC, there is no specific chain of command; we meet as equals, and strive to make decisions without unknown agendas or goals.
- >While the members of the IHC were elected to represent their House members, many of the ASCIT BOD members were elected primarily to undertake specific tasks and only secondarily to represent students. Some examples are the ASCIT Secretary, Treasurer, and Social Director.

ondarily to represent students. Some examples are the ASCIT Secretary, Treasurer, and Social Director.
>The members of the IHC were all elected from a pool of candidates. It is not uncommon for ASCIT BOD members to run unopposed. Which of these better represents the students? In their arguments, ASCIT will bring up points that are grounded in

good intentions, but in fact both ASCIT and the IHC have good intentions. Both the IHC and ASCIT want to appoint the most appropriate students to these committees. When looking at ASCIT's arguments, which of the arguments apply to the IHC, and which apply to both the IHC and ASCIT? Also remember that the proposal does not

ask which group can better communicate with members of the committees but rather who can better appoint them. If you feel that more communication and feedback is needed with undergraduate members of Student-Faculty Committees, this proposal will not address your concerns. This issue is important to the IHC because we want the best representation of the student body to the faculty. So we encourage all of you to talk to both the members of the IHC and the ASCIT BOD so that you may make a fully informed decision on Monday.

Sincerely,
(signed)
The IHC

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<p>COMPAQ</p> <p>VESA 66MHz</p> <ul style="list-style-type: none"> Intel inside - 4MB ram up to 32MB - 340MB IDE hard disk - 1.2 & 1.44MB floppy drive - 9600 Fax/2400 Modem - SVGA W/1MB - 2 serial, 1 parallel - IDE FD/HD controller - Compaq 101 keyboard - Compaq mouse <p>Three Year Warranty One Year On-Site Service</p> <p>486DX2-66 \$1995</p>	<p>C:M</p> <p>386DX-40MHz</p> <ul style="list-style-type: none"> - 128K cache - 4MB ram up to 32MB - 250MB IDE hard disk - 3 1/2" & 5 1/4" floppy drive - 14" SVGA 1024 monitor (.28) - 16 bit SVGA W/1MB - 2 serial, 1 parallel - Dual IDE FD/HD controller - 101 keyboard - 3 button mouse <p>One Year Parts & Labor Warranty</p> <p>\$895</p>	<p>Canon</p> <ul style="list-style-type: none"> - Pentium overdrive ready - 2 VESA & 4 ISA slots open - 4MB ram up to 68MB - 170MB IDE hard disk - 3 1/2" & 5 1/4" floppy drive - Canon 14" SVGA monitor (.28) - VESA accelerator SVGA W/1MB - 2 serial, 1 parallel - Canon 101 keyboard - Logitech mouse, Canon mouse pad - Energy star compliant (EPA) - Free software pre-installed (w/manuals) - Microsoft DOS 6.2 (Value \$55) - Microsoft Windows V3.1 (Value \$75) - Microsoft Works for Windows (Value \$155) <p>486SX-33MHz \$1299</p>	<p>Bondwell Notebook</p> <ul style="list-style-type: none"> - 486SLC-33MHz - 4MB ram up to 12MB - 120MB IDE hard disk - 1.44MB Floppy drive - 9600 Fax/2400 modem - Battery hours: 4 hours - 4.7 lbs - Carrying case - MS Dos 6.0 <p>\$1295</p>
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Notices

Summer Fellowship Mailing. To sign up to receive fellowship information over the summer current junior and graduating seniors should come by the fellowship office before the end of this term. Please read through the fellowship guide that you will soon receive in campus mail as you will be asked to indicate which fellowship you wish to receive information on. Call Lauren Stolper at x2150 if you have any questions.

Attention Campus Employers! Do you have a job that a Caltech student could do for the summer-office work, lab work, any odd jobs? You can advertise them in the Career Development Center. Please call x6361 or visit us in Room 08 Parsons-Gates.

Learn the Swing Hustle! You'll look hot at the ASCIT Formal or just have fun learning. Scott Driggs and Jessica Barnett are teaching Thursday nights from 9 p.m. to 10 p.m. in the Winnett Lounge. Bring your friends! Have fun!

On Tuesday, May 24, author **Jonathan Weiner** will sign his new book, *The Beak of the Finch*, from 12:00 until 1:00 at the Caltech Bookstore.

The **Gay/Lesbian/Bisexual Support Group** meets the first and third Tuesdays at 7:30 p.m. in the Health Center Lounge. This confidential meeting is open to all Caltech community members looking for a supportive context in which to address questions and concerns about sexual orientation - including coming out, being out, self-discovery, coping with families. We begin with a focus topic but move to whatever is feeling most relevant to the group that night. Refreshments are served. For more information, please call x8331.

The **Caltech Y** is sending a Volunteer Trip down to Tijuana to help at the site of a youth center. We will be leaving the night of May 5 and returning the night of May 7. If you are interested, please contact Chris at the Y (x6163) or Seiya (577-7973).

Coming Events

The next movie to screen in the **German Film Series** is *Clavigo* (1979). It will be shown on Thursday, May 5 in Baxter Lecture Hall at 7:30 PM. This film features English subtitles and is presented free of charge. For more information, please call 395-3610.

Coleman Chamber Ensemble Competition Winners Concert, Ramo Auditorium, near Chester Avenue south of Del Mar Bou-

Events and Notices

levard, in the Center of the Caltech campus, Pasadena. 3:30 p.m., Sunday, May 1, 1994. Winners of the 48th annual Coleman Chamber Ensemble Competition will perform. Admission: \$10, students \$5. Info: (800) 423-8849 or (818) 395-4652. Individuals with a disability: (818) 395-3700 (TDD) or (818) 395-4688 (Voice) weekdays 9 a.m. to 4 p.m.

The 15th Annual Bandorama, featuring the Caltech Jazz Bands and the Caltech-Occidental Concert Band, will be at Beckman Auditorium at 8 p.m. on Thursday, May 5th. Soloists Angie Whitney, vocalist, and John Brugman, trumpet, will enhance the "Made in America" theme. The concert is free to the public. For more information, call x4652.

Pianist **Andre-Michel Schub** and violinist **Cho-Liang** will give a Coleman Chamber Music Concert on Sunday, May 8 at 3:30 pm in Beckman Auditorium. Fifty free tickets to this concert are available to the Caltech students with ID (limit two free tickets per ID) beginning on May 2. Call x4652 for further information.

Club Meetings

Caltech SEDS meets every Sunday evening at 9 p.m. in 107 Downs to discuss and plan for its \$4 million satellite proposal. Help is needed from undergraduate and graduate students, and advising is needed from research fellows, faculty and staff. Experience with space hardware or with the specific experimental subsystems (gamma-ray astrophysics and atmospheric chemistry) is not necessary. All members of the Caltech/JPL community are welcome. Contact Ben McCall at x2902 or bjmc@cco.

Caltech SEDS will be hosting an **Ice Cream Social/Movies Night** this Saturday, April 30th from 7pm to 1am in Winnett Lounge. The movies 2001, 2010, and Total Recall will be shown on laserdisc via projection TV in laser digital sound. Lots of ice cream and soft drinks will be served. Open to the entire Caltech Community. Come by just for some ice cream, or stay for a movie or two (or three).

Lectures and Seminars

Robert M. Zweig, M. D. speaks on the possibility of having a **hydrogen fuel economy** rather than one based on petroleum. Hydrogen is a much less polluting fuel than those conventionally used in energy production, and there are many examples of using hydrogen as a power source by utilities, for residential heating, and as an energy source for consumer combustion based and electric vehicles. Dr. Zweig will talk about how we as scientists can promote the integration of hydrogen fuel technologies in our society as one example of the effects our position in society can have.

Genetic Testing For Breast Cancer: Women's Knowledge, Medicine's Hope. This **Science, Ethics, and Public Policy** seminar by Dr. Nancy Press, Assistant Professor in the Department of Psychiatry and Biobehavioral Sciences at UCLA will be given in the Judy Library. Thursday May 5, 1994 at 4 p.m. Refreshments will be served.

William Bennett Munro Memorial Seminar-Dr. Michael Kammen The Times-Mirror Professor of American Studies, The Mirror Professor of American History, Cornell University. **Transformations of American Culture, 1920-1960: The Critics' Perspective.** Judy Library, BLH, Caltech. Tuesday 26 April, 1994. 4 p.m. Open to the community, refreshments will be served.

Scholarships, Fellowships, Internships and Competitions

The Literature Faculty announces the **48th Annual Mary A. Earl McKinney Competition**. The prize is awarded each year for excellence in writing. Only full time students at Caltech as undergrads are eligible. All submission to the three categories (poetry, prose fiction, and non-fiction essays) must be type-written and double-spaced. A prize of \$300 will be awarded in each category. All work must be submitted to Prof. Jenijoy La Belle, Division of the Humanities and Social Sciences, 101-40, by no later than May 5, 1994. No entries will be returned. Winners will be announced the last week of May. For more information, contact Dr. La Belle, x3605, or Barbara DiPalma, x3609.

Teaching assistantships for the Young Engineering and Science Scholars Program (Y.E.S.S.) are available for Summer '94 in the following areas: physics, biology, geology, and computer science/logic skills. Y.E.S.S. is a five-week residential program that exposes 40 high school students to the joys of intensive scientific investigation. The program runs from July 5th to August 5th. Applications are available in the Vice President for Student Affairs Office and are due on Friday, May 6th. Contact Athena, x6321, for more information.

Poetry Contest: Pickenpaugh Literary agency is holding a free contest. Poets may enter 1 to 3 entries, 30 lines or less on any subject, any style, or essays 300 hundred words less. Send entries with SASE to: Poetry, PO Box 2894-C107, Vacaville, CA 95696. Deadline is July 15th, 1994.

Lindbergh Fund—The fund grants awards

up to \$10,580 to undergrads, grad students, post-docs or faculty who need funding for research in one of the following areas: aviation/aerospace; conservation of animal, plant, water, energy, air, land, etc. resources; education in the arts, humanities; inter cultural communication; health and biomedical research; adaptive technology; waste minimization and management; and agriculture. Applications for this fellowship must be postmarked by **June 14**. Contact Lauren Stolper at x2150 if you would like more information or an application.

Grants for Graduate Study—This book is being called the "premier national directory of grants and fellowships for graduate study." It is available for student review in the Fellowship Office in Lloyd House and may be checked out over the weekend. Call x2150 for information.

Grants for Post-Doctoral Study—This book is an excellent resource for graduate students or current post-docs seeking information on major sources for post-doctoral funding. It is available for review in the Fellowship Office in Lloyd House. Call x2150 for information.

STUDY ABROAD is a new resource that provides complete information on over 1,300 programs spanning the world. If this is an area that you are considering this book is a good place to explore options. STUDY ABROAD is available for review in the Fellowship Office. Call extension 2150 for details.

The **Kirby Company** is continuing its annual college scholarship program, "Makin' the Grade." Scholarship range from \$250 to \$1000 dollars. Participants work as full-time and part-time independent Kirby dealers during June, July and August, competing for monthly scholarships based on sales performance. For more information, contact your local Kirby distributor or call (216) 228-2400 or write The Kirby Company, 1920 West 114th St., Cleveland, OH 44102-2391.

The Financial Aid Office has applications and/or information on the following and additional scholarships. All qualified students are encouraged to apply. Our office is located at 515 S. Wilson, second floor.

The Bakersfield Desk & Derrick Club is accepting applications for the Wilma Addington Memorial Scholarship. Applicants must be **Kern County residents, and must be pursuing a degree in an energy related field.** Application in letter form should be submitted to the following address: Jan Walker, Chairman, Desk & Derrick Club Scholarship Committee, P.O. Box 11064,

Bakersfield, CA 93389-1064. The Financial Aid Office has more details.

The Los Angeles Chapter of the **National Black MBA Association** will be awarding three \$2,000 scholarships to qualified African American students. Applicants must be enrolled in a full-time graduate business or management program, in the state of California, in the Fall or 1994 and Winter of 1995. Applications must be postmarked no later than May 18, 1994.

Jewish Family and Children's Services is accepting applications for student loans, grants, and scholarships of up to \$5000. Jewish students who are residents of **San Francisco, the Peninsula, Marin or Sonoma Counties (for scholarships and grants), or residents of the Bay Area (for student loans),** and who demonstrate financial need and academic achievement are eligible to apply. To receive an application, call (415)561-1226 or come to the financial aid office. Applications are accepted throughout the year.

The **John Gayles Educational Trust** is offering financial assistance to **Canadian and American citizens.** Selected students will receive up to \$2,500. A minimum GPA of 2.7 is required. Deadlines range from April to November. For an application, send a self-addressed, stamped #10 envelope to: The John Gayles Education Fund, Attention R. James Cogle, Administrator, P.O. Box 4808, 712 Riverside Drive, Fredericton, New Brunswick, Canada E3B 5G4.

The **Orville Redenbacher Second Start Scholarship Program** is offering 30 \$1000 scholarships to qualified applicants. To be eligible you must be 30 or older, and a part or full-time undergraduate or graduate student at an accredited college or university. All applications must be postmarked by May 2, 1994.

The **Society of Women Engineers announces its 1994-95 Freshman and Reentry Scholarship Programs.** The Freshman Program consists of 8 scholarships of \$1,000 each for entering woman engineering students. The Olive Salembier Reentry Scholarship is designated to encourage and aid women in reentering the job market as an engineer after being out of the work force for a minimum of two years. Applications and supportive materials must be postmarked on or before May 15, 1994.

The **National Hispanic Scholarship Fund** is offering scholarships to qualified Hispanic students. Applicants must be full-time, day-time students who have completed a minimum of 15 college credits and are U.S. citizens or permanent residents of the U.S.. The deadline to submit applications is June 15, 1994.

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