



The California Tech

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T. Ma/The California Tech

Freshman watch the boat design competition at the pool Tuesday during frosh camp. The winning boat was the "Duct Tape Demon," a fat paddleboat design.

Freshmen Trek to Resort on Lake Arrowhead for Orientation Talks

By ROYAL REINECKE

Approximately 235 new undergraduates arrived on campus this past week in time to be hauled away to the mountains for the annual tradition of Frosh Camp. After being enthused by various professors and administrators during Convocation about what Harry Gray passionately described as our "passion" for math and science here at Caltech, the prefrosh scuttled off to catch their buses. They headed to camp toting duffel bags and suitcases, as well as a little nervousness and a lot of anticipation.

When comparing this year's crop of prefrosh to last year's, sophomore upperclass counselor Yuliya Kuznetsova noted that she saw "more nerdy math t-shirts!" In addition to being more vocal about their interest in math, the prefrosh seemed more social on the whole according to Yuliya.

For the first time in Caltech history, the frosh did not need to lug around sleeping bags or pillows. Unlike last year when the prefrosh stayed at the woody rugged facilities of Astrocamp, this year the new students were whisked away to the particularly posh Lake Arrowhead Resort.

Not only did frosh find beds to sleep on, but they also discovered that rooms were also equipped with televisions and hair dryers (all devices secondary to a typical Caltech student's lifestyle). Even the soaps and lotions at the hotel came with tantalizing titles like "relaxing sea fennel" and "detoxifying kelp."

Like many other UCC's who attended frosh camp in previous years, Yuliya definitively commented that this year's new locale "really beats Astrocamp!" despite lamenting the lack of telescopes and opportunities to participate in outdoorsy activity. Joey Mouss-

oussi, a prefrosh from Morocco, exclaimed that outside was "so cold, too cold!" --a feeling shared by a number of prefrosh.

On top of receiving the usual five plus meals and snacks served at frosh camp, this year's food proved exceedingly tasty, hopefully helping to give the prefrosh a little bit of the babying (and home-cookin', mmm) they most likely were receiving prior to leaving their homes just a few days before. When asked her favorite part of frosh camp, transfer student Ekua Anane-Fenin of Ghana just pointed at the food with satisfaction.

At the same time, various talks introduced the prefrosh to a number of the topics--from academics to rotation--which they will soon face at Caltech. Upperclass

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Marshak Kicks Off New Academic Year

By MATTHEW WALKER

Vice President of Student Affairs Margo Marshak greeted a full Beckman Auditorium this past Monday at the second annual convocation. The crowd of new freshmen, transfers, graduate students and current Caltech community members were formally welcomed during the "marker of a new academic year."

Marshak wasted no time jumping into the morning's exciting program, introducing the first speaker, Dr. Harry Gray. Gray has been a professor at Caltech since 1966, currently serving as the Arnold O. Beckman Professor of chemistry. He is also the Founding Director of the Beckman Institute. Gray has received many awards, including the National Medal of Science and the Priestley Medal from the American Chemical Society.

Gray's talk, titled "A Passion for Science," focused on his work on developing more efficient technology to make use of solar power. He cited Professor David Goodstein's book, *Out of Gas: The End of the Age of Oil* as an example of passionate work done on the subject. The book outlines two possible paths human civilization might take this century after the world's oil supply runs out; a possibility that Goodstein shows may occur sooner rather than later.

The three main parts of solar energy conversion are light capture, electron transfer and catalysis. If 1.7% of the United States' land area was converted to light capture devices, it would collect enough energy to power the country. Unfortunately, price is a prohibitive factor, so switching to

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Crashed Genesis Still Produces Useful Data

By TAMMY MA

NASA's Genesis mission, launched on August 8, 2001 to capture particles of solar wind, had a rather unfortunate ending two years later. As part of the 2004 JPL Theodore von Karman Lecture Series, Dr. Nora Mainland, the Genesis Payload and Navigation Lead gave a talk entitled "Catching a Piece of the Sun: The Genesis Sample Return Mission" on Thursday September 17 and Friday September 18.

The goal of the Genesis mission was to collect and return to earth 10 to 20 micrograms of solar wind from outside the influence of Earth's magnetic field. Scientists believe that pieces of the solar wind resemble the dust, gas and ice from which the various bodies of our solar system evolved.

Dr. Mainland showed various computer-generated diagrams and photographs of the Genesis spacecraft. With a picture of the finished model, she commented, "It is actually quite small, no larger than most of your dining room tables." To capture the solar wind, the Genesis team used gold, sapphire, silicon and diamond to make up small tiles that were pieced together to form the collector arrays. In flight, an on-board computer decided which array would work best and deployed the appropriate collector array.

Besides the landing, Mainland described, the mission was hugely successful. Its target collection period was 22 months and it exceeded that goal by collecting samples for 26 months. The two maneuvers the spacecraft had to execute (one to move into the planned trajectory and the other to insert the craft into its orbit) went off without a hitch. In addition, the 18 further maneuvers for station keeping and trajectory

correction continually kept the vehicle in its correct position.

Dr. Mainland then showed an animation of the Genesis recovery process. Stage 1 involved the separation of the sample return capsule from the spacecraft bus, which would be rerouted to a long-term orbit around the Sun. The sample return capsule, with solar wind particles intact, would continue toward Earth. During stage 2, the capsule would enter Earth's atmosphere over Salem, Oregon at speeds of nearly seven miles per second. Ideally, in stage 3, the main chute--a rectangular parafoil similar to a skydiver--would have released to allow the sample return capsule to spiral gently downward, where in stage 4, two helicopters would perform a mid-air capture.

Regrettably, the two helicopters were never able to do their job, as instead of softly floating down to earth, the Genesis capsule tumbled through the atmosphere, where it lodged into the Utah desert on September 8, 2004.

Ideally, the capsule would have been transported to the Johnson Space Center where it would have been placed into a clean room and had a nitrogen purge performed on it to prevent contamination from Earth. In all, this process should have taken five hours; however, 16 days after the crash, the Genesis capsule continues to remain in Utah.

Good humouredly, Dr. Mainland said, "What I'm here to tell you tonight is all is not lost." Due to a rain the week before, the desert floor was partially muddy, making for a more cushioned landing surface than the normal. And good fortune smiled on the Genesis scientists, as they were able to recover all the pieces of the collector arrays, albeit some of the tiles had broken into "con-

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Courtesy of www.nasa.gov

The Genesis probe remains in Utah after crashing when its parachute failed to deploy. NASA crews have recovered most of the sample tiles and are preparing to distribute them for study.

Scientists Prepare To Study Recovered Tiles

Continued from Page 1, Column 5

fetti-like" small pieces. Some tiles were even still in one complete piece.

"We were going to distribute the wafers to scientists around the world, so we were going to break them up anyway. The crash just saved us some work," joked Mainland. Because each piece needs to be inventoried, the capsule has not yet left Utah.

Mainland also remarked, "How amazing it is and how lucky we were to collect all our science samples." She ended her talk by sharing that the curation team at Johnson Space Center has a strategy to handle the contamination issues and are not concerned. All who are involved with the mission are still very, very excited that their scientific mission to measure the abundance of isotopic elements is still viable.

Mainland concluded the night with the moral of the story: "When you do space exploration, there's

always risk. It's the ultimate in reality TV, with no guarantee of success."

The Genesis mission was a collaboration between the Jet Propulsion Laboratory, Los Alamos National Laboratory, Lockheed Martin, Johnson Space Center and Caltech.

The von Karman Lecture Series, presented by JPL's Office of Communications and Education, brings the excitement of the space program's missions, instruments and technologies to the local community and webcast viewers nationwide. A different lecture is held each month in two locations: JPL and Pasadena City College (PCC). Thursday lectures are held at JPL's von Karman Auditorium and are available in a live and later archived webcast. Friday lectures are held at PCC's Vosloh Forum. All lectures begin at 7 p.m. The lectures are free and seating on a first come, first served basis.



Dr. Nora Mainland explains how the Genesis probe's landing system failed and how the curation team plans to make use of the tiles that were recovered.

T. Ma/The California Tech

MIT/Caltech Report Offers Plan To Improve Reliability of Voting

By JILL PERRY

PASADENA, Calif.- Experts in voting technology from the California Institute of Technology and Massachusetts Institute of Technology say that four relatively simple and inexpensive steps can be taken to ensure that voting procedures in this fall's presidential election are as accurate and reliable as possible.

The recommendations are included in a new report prepared by the Caltech/MIT Voting Technology Project for the Election Assistance Commission (EAC), an independent bipartisan agency that serves as a national clearinghouse for information on the administration of federal elections. The report also includes several steps that the group believes are necessary for avoiding lost votes in November.

"Between four and six million voters were disenfranchised in the 2000 election," said Mike Alvarez, a professor of political science at Caltech. "Although some progress has been made these past four years, we are still concerned that millions of votes could be lost in November--particularly if the popular vote is close."

Ted Selker, associate professor of media arts and sciences at MIT, says, "Procedural improvements can still be made this year

to ensure that we have only a fraction of the errors that we had in 2000."

Recommendations from the Caltech/MIT team include:

- Collect the information that would be needed to audit the 2004 election. This is essential. Currently, 11 states do not report total ballots cast, making it nearly impossible to track the performance of equipment and election procedures in these states. The EAC should require a report of total ballots cast and votes cast for each federal office from each election jurisdiction. These reports should also include the number of registered voters and absentee ballots cast. The secretaries of state should include these figures in their statement of certified votes.

- Fix common ballot problems. This includes some very basic design issues that were problematic in the last election. For example, the EAC should recommend that all jurisdictions using optical scanning use the term "Someone Else (write name)" instead of the term "Write In." If the ballot has a back side, the front side of the ballot should clearly state so in large, plain letters.

- Produce provisional voting guidelines. Many people went to

the wrong precinct in 2000, and were unable to vote. New provisional voting guidelines need to be developed by mid-August that give uniform procedures for allowing provisional ballots to be used when a person's registration is in question.

- Develop common complaint procedures and election monitoring processes. The EAC needs to establish a procedure for managing complaints, and should be prepared to serve as an ombudsman to receive, investigate, and follow up on complaints.

The Caltech/MIT report also makes other recommendations that insure that every step in the voting process is checked and improved upon in multiple ways. Among these is the requirement that each stage of the election process have more than one person involved in all matters that can affect voting including equipment purchasing, ballot storage, and setting up polling places.

The Caltech/MIT Voting Technology Project was established shortly after the controversial 2000 presidential election. The goal of the partnership is to prevent disputed elections in the future by examining potential problems in the voting process and introducing technological improvements for voting procedures.

A copy of the report can be found at <http://www.vote.caltech.edu/>.



Courtesy of www.nasa.gov

The tiles were smashed on impact, but NASA teams recovered most of the pieces, of various types of tile.

Japan Academy Prize Awarded to Kanamori

By MARK WHEELER

PASADENA, Calif. - Hiroo Kanamori was caught by surprise on learning he had been awarded the prestigious Japan Academy Prize in June. Established as the Tokyo Academy in 1879, the Japan Academy presents the award for excellence in academic theses, books, and scientific achievement.

"Since I have been away from Japan for so long--32 years--I was surprised the Japan Academy still remembered me," says Kanamori, the John E. and Hazel S. Smits Professor of Geophysics at the California Institute of Technology. "Still, someone was very kind to nominate me, and I'm very grateful for that."

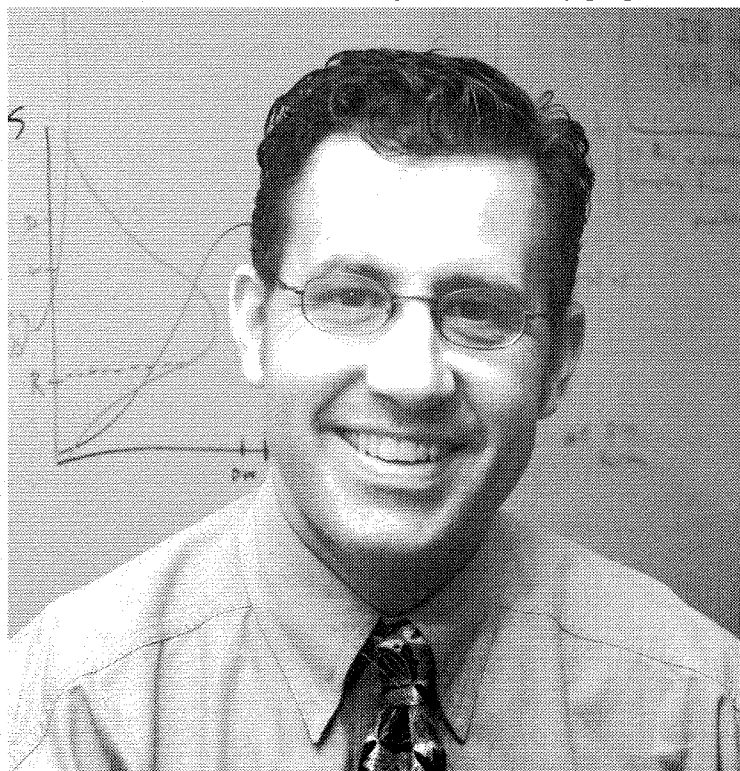
Kanamori sees this as a career award for his body of research since, as he puts it, "Research is different from running a 100-meter dash in nine seconds." The Academy recognized him for his work on the physics of earthquakes. As they noted, his investigations have provided insight into the physical processes taking place during earthquakes, especially his quantification of regional variations of plate sub-

ductions.

Kanamori was one of nine awardees to be honored with the Japan Academy Prize, and accepted his award, consisting of a medal and \$9,000, at a ceremony in Japan on June 14. Kanamori says he was especially honored because the emperor and empress of Japan attended the ceremony. Later the awardees attended a luncheon hosted by their majesties and had an opportunity to talk with them, the crown prince, and their daughter, the princess.

"That was the most interesting part of the event," says Kanamori. "I found that they had a good understanding of what creative research is, and what it means to our life and society."

Kanamori will give part of the cash award to two international earthquake relief organizations. "I always feel somewhat frustrated that my science is not helping to reduce the misery caused by earthquakes as effectively as I wish," he says, "and I respect those people who actually work on the relief efforts. So I hope I will be able to help them with this small contribution."



Courtesy of hss.caltech.edu

Professor Mike Alvarez helped make the recommendations that the joint Caltech/MIT team made for this election.

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Trench Study Shows San Andreas Shifting

By ROBERT TINDOL

PASADENA, Calif.-A common-sense notion among many Californians is that frequent small earthquakes allow a fault to slowly relieve accumulating strain, thereby making large earthquakes less likely. New research suggests that this is not the case for a long stretch of the San Andreas fault in Southern California.

In a study appearing in the current issue of the journal *Geology*, researchers report that about 95 percent of the slippage at a site on the San Andreas fault northwest of Los Angeles occurs in big earthquakes. By literally digging into the fault to look for information about earthquakes of the past couple of millennia, the researchers

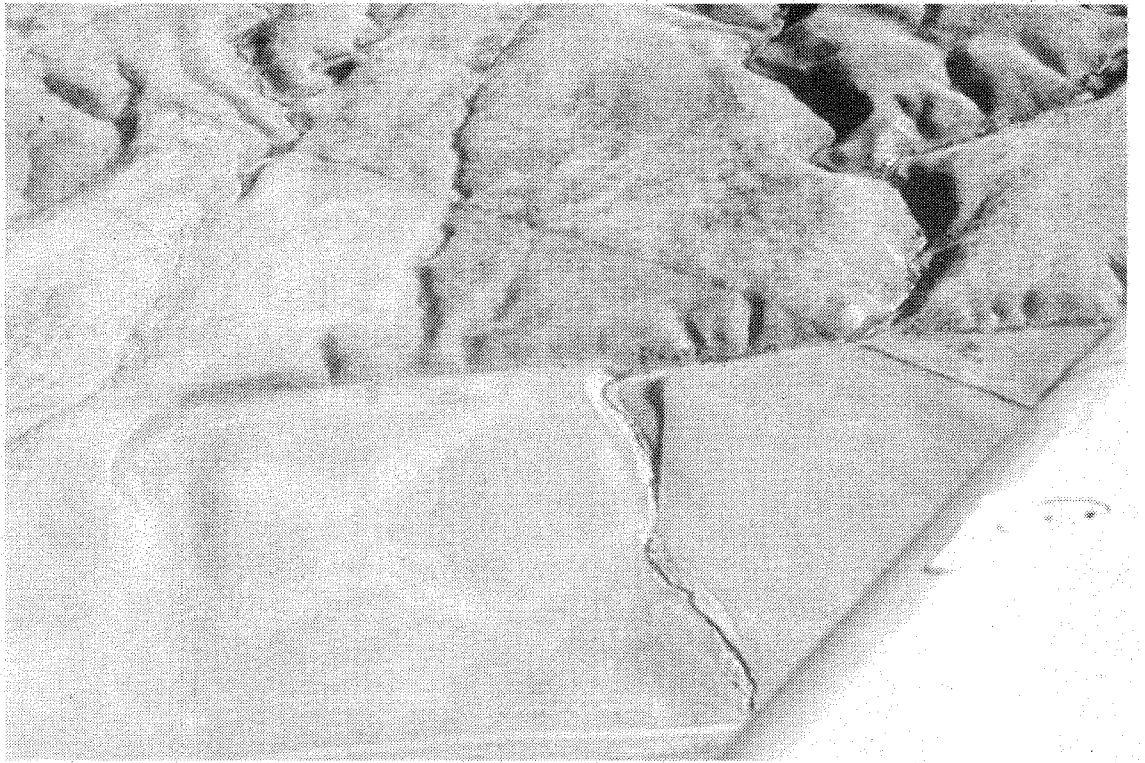
have found that most of the motion along this stretch of the San Andreas fault occurs during rare but large earthquakes.

"So much for any notion that the section of the San Andreas nearest Los Angeles might relieve its stored strains by a flurry of hundreds of small earthquakes!" said Kerry Sieh, a geology professor at the California Institute of Technology and one of the authors of the paper.

Sieh pioneered the field of paleoseismology years ago as a means of understanding past large earthquakes. His former student, Jing Liu, now a post-doctoral fellow in Paris, is the senior author of the paper.

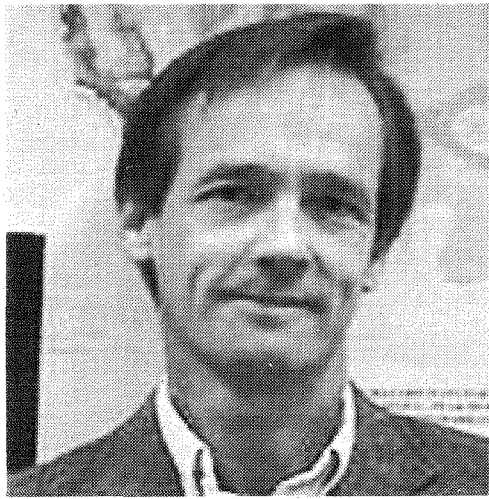
In this particular study, Liu, Sieh, and their colleagues cut trenches parallel and perpendicular to the San Andreas fault at a site 200 kilometers (120 miles) northwest of Los Angeles, between Bakersfield and the coast. The trenches allowed them to follow the subsurface paths of small gullies buried by sediment over the past many hundreds of years.

They found that the fault had offset the youngest channel by nearly 8 meters, and related this to the great (M 7.9) earthquake of 1857. Older



Courtesy of www.gps.caltech.edu

The San Andreas fault has shifted much more as a result of large earthquakes than of small ones, proving that the notion that small earthquakes prevent large ones isn't true.



Courtesy of gps.caltech.edu

Dr. Kerry Sieh worked on the study that debunked the idea that strain is released.

gullies were offset progressively more by the fault, up to 36 meters. By subtracting each younger offset from the next older one, the geologists were able to recover the amount of slip in each of the past 6 earthquakes.

Of the six offsets discovered in the excavations, three and perhaps four were offsets of 7.5 to 8 meters, similar in size to the offset during the great earthquake of 1857. The third and fourth events, however, were slips of just 1.4 and 5.2 meters.

Offsets of several meters are common when the rupture length is very long and the earthquake is very large. For ex-

ample, the earthquake of 1857 had a rupture length of about 360 kilometers (225 miles), extending from near Parkfield to Cajon Pass. So, the five events that created offsets measuring between 5.2 and 8 meters likely represent earthquakes that had very long ruptures and magnitudes ranging from 7.5 to 8.

Taken together, these five major ruptures of this portion of the San Andreas fault account for 95 percent of all the slippage that occurred there over the past thousand years or so.

The practical significance of the study is that earthquakes along the San Andreas, though infrequent, tend to be very

large. Years ago, paleoseismic research showed that along the section of the fault nearest Los Angeles the average period between large earthquakes is just 130 years. Ominously, 147 years have already passed since the latest large rupture, in 1857.

The other authors of the paper are Charles Rubin, of the department of geological sciences at Central Washington University in Ellensburg, and Yann Klinger, of the Institut de Physique du Globe de Paris, France. Additional information about the site, including a virtual field trip, can be found at <http://www.scec.org/wallacecreek/>.

Princeton University



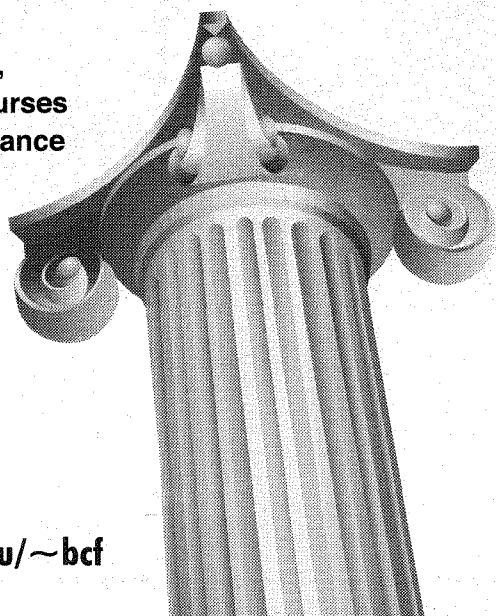
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Rotation Rules 2004

Rotation Rules

(Interpretation in italics)

I. Preamble

The Rotation system has evolved over the years as the best method to distribute new students among the Houses. Each new student is given a voice in selecting the House he or she will join, and the Houses have some say in choosing their members. The motivation behind these rules is the Honor System. The intention is to prevent both the Houses and the new students from taking unfair advantage of any other House or new student. All undergraduates are responsible for understanding and following these rules, and just as with the Honor Code, ignorance is not an acceptable excuse for violating them. Keep in mind that the spirit of the rules is at least as important as the letter of the rules, and the IHC reserves the right to interpret the spirit of the rules as necessary.

II. Procedures

1. Rotation week begins on the Sunday prior to the first week of the term and ends after the following Saturday.

2. Throughout the course of Rotation week, new students will remain in residence at a randomly determined temporary room assignment in one of the Houses.

3. For the first six days of Rotation week, (Sunday through Friday) each new student visits a different House for dinner in a randomly determined order. New students also visit the Houses for lunch, in an order determined by the following mapping:

	Sun	Mon	Tue	Wed	Thu	Fri	Sat	
House visited at dinner:	A	B	C	D	E	F	(none)	
House visited at lunch:	(none)	F	E	C	B	D	G*	

* This is the House in which the new student is temporarily living.

Any new student who does not attend lunch or dinner or does not check in with the House President will be defined as a "no-show" for that House, and will be considered to have rated all seven Houses equally.

4. All new students must choose at least four of the seven Houses which they would prefer to join and submit a list of those preferences on to the Resident Associate (R.A.) of the House in which they are residing. This information will be given to each House President and shall be made available only to the House Rotation chairmen, only after all changes are finalized. The Houses are not required to follow the ratings submitted by each student, except that no House may choose a student that did not rate it. Students living outside of the seven Houses must submit ratings to the R.A. of the House which they visit on Saturday of Rotation week. Students may be picked by any one of the Houses if they do not submit a House preference list. In exceptional circumstances, new students who state to the Director of Campus Life that they do not wish to participate in Rotation will not be selected by any House, but will still be given Institute housing.

5. On the Saturday of Rotation week, the R.A. of each House will provide rating sheets to all of the new students dining at their House that day. From 2 to 4 PM, the R.A. will be available at a place made known to the new students. During that time, the new students must give their ratings to the R.A. The R.A. will enter the student's ratings and then confirm them with the student before submitting them. At 4 PM, the IHC will compile the list and check to ensure that all ratings have been submitted. Every effort possible will be made to obtain any missing ratings. Only the IHC will have access to the list until it is finalized. After the list is complete, the IHC Chairman will declare the list finalized. At that time, the House Presidents may disclose the results to their House Rotation Chairmen. Information concerning whether or not a new student has rated a House (not specific numerical information) may also be disclosed to other House members when necessary.

6. Selection of new students will take place at a closed meeting of the Interhouse Committee Chairman and Secretary, the seven House Presidents, up to four Rotation chairmen from each House, the Director of Campus Life, the Senior Administrator for Campus Life Programs, and the Master of Student Houses. The R.A.'s may attend the meeting as guests of the Director of Campus Life. This meeting will occur on the Sunday immediately following Rotation week. All information relating to this meeting will not be made public. All such information in electronic or written form must be destroyed immediately following the meeting.

III. Regulations

1. Rotation rules are in effect for any contact with new students from their initial acceptance to Caltech (including before they matriculate) until their submitted rating lists are considered accurate (as stipulated at 5:00 pm on Saturday of Rotation week).

These rules are in full effect now and will be until October 2nd, 5pm.

2. Throughout these rules the term "House" refers to both the organization as a whole and any of its members.

People who could be construed as representing the House:

- Full dues paying House members who are currently registered as undergraduates
- Full dues paying House members who are not currently registered as undergraduates, but plan on coming back
- Social members who are currently registered as undergraduates
- Social members who are not currently registered as undergraduates, but plan on coming back
- Alumni and former students
- Unaffiliated students
- RAs
- Others (grad students, friends of students, non-Caltech affiliated people who hang around)

This rule is intentionally left vague with respect to social members, etc. because "House" is used in different ways throughout the document. Consider the case of those people falling under categories (2)-(8) who hang around in the House, but who are not present during dinner or after-dinner-reception. A President could ask them to leave (Security will remove them if necessary), but the House could still be held responsible. This situation will have to be dealt with on a case-by-case basis because these people could still cause an unfair bias.

3. New students are **specifically prohibited** from unfairly biasing other new students toward or against a House.

This includes new students providing alcohol to other new students, even if they are over 21.

4. Houses are **specifically authorized** to do the following during Rotation:

- have receptions after dinner
- serve refreshments at these receptions
- prohibit those who are not current full House members from attending these receptions

Member of a House is defined to be a full dues paying currently registered undergraduate. Anyone that does not fall under this definition of Member must get explicit approval from the House President. If a House President approves someone, then the House is responsible for that person's actions.

- have open presentations anywhere on campus

This includes unofficial tours of campus such as tours of the steam tunnels. Pranks that don't degrade other Houses are also acceptable.

- publish and distribute informational literature which is inexpensively reproduced

This refers to posters, literary journals, Rotation videos, and propaganda sheets among other things. All such documents must be approved by the IHC.

f. Students may accompany or transport new students to any place open to the public, if no extraordinary services are provided, as long as the trip does not last longer than four hours,

and as long as the excursions remain within the spirit of the Rotation Rules (the restrictions on Houses organizing social events and students providing extraordinary services).

Longer trips will require approval of the IHC. Please note that this rule applies to new students who are around before the first official check-in day, although athletic training and scheduled FSI events are still exceptions to the rule. The goal of this rule is to allow flexibility for reasonable, spontaneous trips (for food, movies...). The spirit of the Rotation Rules still disallows such trips to become forums for recruiting freshman for any House.

5. Houses are **specifically prohibited** from doing the following during Rotation:

- making a trophy or alley challenge

This is basically a House social event. Social events can provide an unfair bias and could get out of hand.

- publishing a social calendar or relating in any fashion future social events, except during prefrash weekend.

The purpose of this rule is to avoid having some upperclassmen make outlandish promises about future social events. Comments about past social events are perfectly okay, if it is made clear to the new students that it is an event that happened in the past. During prefrash weekend, Houses are allowed to leave their social calendars up as it reflects an aspect of Caltech life. During the time period before and including Rotation Week, these calendars will be taken down from everywhere (on the Web and in the House).

- organizing and sponsoring a social event

Social events can occur, but only with IHC approval. These IHC-approved events will typically include the following stipulations:

i. Parties should be limited to small gatherings - organized by people in their rooms, etc - without large amounts of preparation and planning.

ii. New students can go to parties where everyone is invited and welcome. Off-campus sites are better, because they are less associated with the on-campus Houses. Similarly, parties thrown by people from more than one House will be easier to interpret as non-recruiting situations.

iii. Alcohol provision (by any student) OR acceptance (by any new student) will both be considered violations.

We realize that upperclassmen coming back want to have fun and party before the school year starts and we will try to accommodate them as best we can. During the actual Rotation week, almost no exceptions to this rule will be made. Organizing a pick up game of sports is typically not a violation of this rule.

For small, unofficial social events (e.g. watching a movie in Old Pas, going bowling) that could involve new students, IHC approval is not required.

- attending a reception of a House of which you are not a full member without the permission of that House's President

Social members may be allowed or not at the discretion of the House President.

- discussing with new students anything at all to do with rating strategies and past or future new student picks.

There is very little leeway with this rule. Telling new students anything about picks or how to rate Houses strongly influences how new students rate their choices. The only thing permissible to say to the new students is that they should rate as honestly as possible, or equivalent statements. Examples of this are: "If you don't want to live in a House, rate it low or don't rate it at all," or, "If you want to live in a House, rate it highly." There is no statute of limitations on Picks information. Any attempt to find out how the Picks Process works is in itself a Rotation Violation. Distributing Picks information regardless of its accuracy is also a Violation.

- providing alcohol or other controlled substance to a new student

There is absolutely no flexibility in this rule.

- spending money on a new student or providing extraordinary goods or services on credit or for no charge.

What "extraordinary" means is up to IHC interpretation. This is a case where upperclassmen are expected to use their own judgment wisely. Pocket change and candy are certainly not extraordinary. Setting-up a date for a new student is considered to be extraordinary; however, dating a new student is not.

- otherwise unfairly biasing a new student toward or against a House

This rule is completely open to interpretation by the IHC. This once again refers to the idea of the spirit of the law. Individuals are not prohibited from speaking about a House of which they are not a member. However, individuals are advised to take care in what they say, as they may be misinformed. One should follow these guidelines when speaking about any of the 7 undergraduate Houses:

i. Be sure to express that the things being said are simply opinions and express how you feel.

ii. Opinions should not be presented in a factual manner. Examples of inappropriate comments are

"There are a lot of gay Booty Housers,"

"All Booty Housers are chain-smoking necrophiliacs,"

"Everyone from Booty House is a Literature major Heroin addict."

iii. The intent of the things said should be used as an informational tool with which the new student can come to their OWN conclusion. It should not be said specifically to scare a new student away from a House.

iv. It should be clear that when you say something about another House that you are not a member of that House.

v. Don't spread rumors. Be aware that your facts may be wrong, and beware of stories you have heard through the grapevine.

vi. There is a big difference between giving your unprompted opinion to a new student and the new student asking for your opinion.

It is important that a new student get as much information as possible in order to make the choices. New students must be given some credit for discerning a highly biased positive or negative opinion.

- Aside from the specifically unauthorized acts, Houses may do anything approved by the IHC in advance of the act.

We are trying to be flexible with our interpretations and that these rules are not set in stone. An exception can (but won't necessarily) be made to any rule upon approval of the IHC.

IV. Penalties

1. An action which any student thinks is a violation of the Rotation Rules must be reported to a member of the IHC.

2. Alleged violations will be tried by the IHC; a four out of seven vote is sufficient for conviction.

3. Any House or individual who is found to have violated these rules may be penalized by any of the following:

- probation
- loss of right to House rating (i.e., new student will be considered to have rated all seven Houses equally.)
- loss of draft choices
- loss of privilege to live on campus
- any other punishment determined by the IHC

Rotation Dinner Schedule

BL Blacker
DA Dabney
FL Fleming
LL Lloyd
PA Page
RI Ricketts
RU Ruddock

House dinner times:

Blacker: 6:05
 Dabney: 6:15
 Fleming: 6:30
 Lloyd: 6:15
 Page: 6:45
 Ricketts: 6:20
 Ruddock: 6:30
 All dinners are a half hour earlier on Friday

Contact Kim Popendorf (IHC Chair) at kimpop@its IF you are:

- NOT on this list and should be
- NOT listed as going to the House you are rotating out of on the last day
- NOT going to participate in Rotation (transfers only)

Notes:

- Lunches (except on Saturday) are served *cafeteria-style*.
- Dinners (and lunch on Saturday) are served *family-style* (waited)

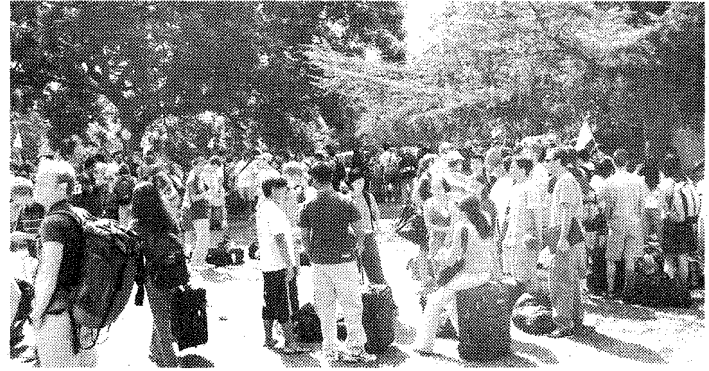
Name	Sun	Mon	Tues	Wed	Thu	Fri	Sat	Name	Sun	Mon	Tues	Wed	Thu	Fri	Sat
	D	L	D	L	D	L	D		D	L	D	L	D	L	D
Allendorph, Carl	LL	DA	FL	PA	RU	RU	BL	Graham, Brian	LL	PA	DA	RU	RI	RI	BL
Alley, Olivia	BL	LL	RI	DA	PA	PA	FL	Grinolds, Michael	PA	BL	DA	RI	FL	FL	LL
Anane-Fenin, Ekua	RU	LL	RI	PA	DA	DA	FL	Grogan, Robert	RU	RI	FL	BL	DA	DA	PA
Arnold, Jessica	RU	RI	LL	DA	FL	FL	PA	Guan, Zhiyun	RI	FL	RU	DA	LL	LL	PA
Arnold, Jonathan	RI	LL	PA	BL	FL	FL	RU	Guerguieva, Tatiana	RU	BL	RI	FL	LL	LL	PA
Bao, Ning	FL	BL	LL	RI	PA	PA	RU	Gutowski, Maria	DA	RI	PA	LL	RU	RU	BL
Barish, Robert	RI	PA	FL	RU	DA	DA	LL	Haderlein, Peter	FL	RU	PA	BL	RI	RI	DA
Barmore, David	PA	LL	RU	DA	BL	BL	RI	Hai, Yang	BL	RU	RI	DA	LL	LL	FL
Becerra, Natalie	FL	BL	RI	PA	DA	DA	RU	Harvard, Alexei	RI	PA	BL	FL	RU	RU	LL
Belson, Brandt	DA	BL	RU	FL	LL	LL	RI	Hawley, Jennifer	FL	PA	BL	DA	LL	LL	RI
BenAssa, Yaeer	LL	DA	RU	BL	PA	PA	FL	He, Ming	RU	PA	BL	RI	FL	FL	DA
Benitez, Juan	BL	RU	DA	PA	FL	FL	RI	Helal, Hatem	LL	RI	RU	BL	FL	FL	DA
Berch, Ezra	FL	PA	BL	DA	LL	LL	RI	Heltsley, Drew	PA	FL	DA	LL	RI	RI	RU
Bogner, Ryan	RI	RU	DA	PA	LL	LL	FL	Herring, Patrick	DA	PA	LL	BL	FL	FL	RU
Boyle, Elette	LL	RU	PA	RI	BL	BL	FL	Heumann, Stephen	LL	FL	DA	RI	PA	PA	BL
Bozorg-Grayeli, Elah	DA	LL	RU	BL	PA	PA	RI	Hines, George	LL	DA	FL	RU	PA	PA	RI
Breeden, Katherine	PA	RI	RU	FL	DA	DA	BL	Hires, Bryan	BL	LL	FL	PA	RI	RI	RU
Chan, Derek	DA	FL	BL	LL	RI	RI	RU	Hiscock, John	BL	RU	PA	LL	FL	FL	RI
Chan, Matthew	FL	LL	BL	DA	RU	RU	RI	Hoffer, Aaron	FL	RI	DA	BL	RU	RU	PA
Chan, Nathan	FL	BL	LL	PA	RU	RU	DA	Horikoshi, Steven	DA	RU	LL	BL	FL	FL	RI
Chan, Yen Jyh	FL	BL	LL	PA	RI	RI	DA	Howe, Elizabeth	RU	DA	BL	RI	PA	PA	LL
Chang, Angela	DA	RU	RI	PA	FL	FL	LL	Hsiao, Edward	BL	FL	LL	RU	DA	DA	PA
Chavakula, Vamsidhar	LL	RI	PA	DA	RU	RU	FL	Hsieh, Scott	DA	LL	PA	RI	BL	BL	FL
Chen, Boris	LL	FL	BL	RU	PA	PA	RI	Hsu, Harold	LL	RI	BL	PA	RU	RU	DA
Chen, David	RU	DA	LL	PA	RI	RI	BL	Huang, James	RI	RU	PA	BL	LL	LL	FL
Cheng, Stephen	DA	RI	FL	RU	PA	PA	BL	Hudgins, Paul	FL	DA	RU	BL	PA	PA	RI
Chun, Waley	LL	FL	RU	BL	DA	DA	RI	Hung, Shek-Ho	LL	BL	RU	DA	FL	FL	RI
Clark, William	FL	LL	PA	RI	BL	BL	DA	Hunter, Robin	DA	PA	LL	RU	BL	BL	FL
Comstock, Michael	FL	LL	RU	RI	DA	DA	PA	Ibanez, Michael Spece	RU	DA	BL	LL	FL	FL	PA
Conrod, Derek	RI	FL	BL	RU	PA	PA	LL	Inadomi, Michael	RI	PA	BL	LL	FL	FL	DA
Craig, Kate	PA	BL	RI	LL	DA	DA	RU	Jeanty, Cedric	RU	PA	RI	DA	FL	FL	LL
Curran, Timothy	RI	RU	DA	FL	PA	PA	LL	Jiang, Deborah	PA	LL	RI	BL	FL	FL	RU
Dang, Hoan	PA	DA	FL	RU	BL	BL	RI	Jiang, Michelle	RI	BL	FL	PA	RU	RU	DA
Davis, Molly	RU	PA	FL	LL	BL	BL	RI	Jones, Richard	FL	PA	RI	BL	RU	RU	DA
Davis, Rene	DA	RU	PA	RI	BL	BL	LL	Kearns, Brian	DA	RI	BL	RU	LL	LL	FL
Deutsch, Philip	PA	BL	LL	RU	RI	RI	DA	Kelleher, Meghan	LL	PA	RI	DA	BL	BL	FL
Dicato, David	FL	RU	DA	RI	BL	BL	LL	Kephart, Jason	BL	DA	RU	LL	FL	FL	RI
Dick, Kevin	DA	PA	FL	RU	LL	LL	BL	Kermani, Henna	LL	PA	DA	FL	RU	RU	BL
Donnellan, Nathan	RI	FL	DA	LL	RU	RU	BL	Kiesz, Matthew	FL	RI	PA	LL	BL	BL	DA
Donovan, Joseph	DA	PA	LL	FL	RI	RI	BL	King, Lindsay	LL	FL	RU	PA	DA	DA	RI
Easler, Michael	FL	PA	LL	BL	DA	DA	RU	Klein, Christopher	BL	RU	PA	FL	RI	RI	LL
Escudero, Alfonso Perez	BL	RU	DA	PA	LL	LL	RI	Ko, Chi Wan	LL	PA	FL	RI	DA	DA	BL
Esparza, Sara	RU	RI	FL	DA	PA	PA	LL	Kochalka, John	LL	RU	DA	RI	PA	PA	FL
Faridi, Sabeen	RI	FL	LL	BL	DA	DA	PA	Koenitzer, David	PA	RI	BL	FL	RU	RU	DA
Feingold, Joshua	LL	RI	RU	FL	BL	BL	PA	Kositsky, Andrew	FL	RI	PA	DA	BL	BL	RU
Feinman, Leighland	LL	RU	DA	BL	RI	RI	PA	Krause, Andrew	PA	BL	RU	LL	RI	RI	DA
Felsen, Csilla	RU	DA	PA	FL	RI	RI	BL	Krom, Russell-John	DA	BL	RI	RU	PA	PA	FL
Ferguson, Sarah	RI	FL	LL	RU	DA	DA	PA	Ku, Pauline	BL	DA	RU	RI	LL	LL	FL
Ferrara, Michael	RU	PA	BL	DA	LL	LL	FL	Kumar, Ashok	BL	RI	LL	DA	RU	RU	FL
Flanagin, Erin	LL	FL	RU	BL	RI	RI	PA	Kung, Simon	BL	LL	DA	FL	PA	PA	RU
Forte, Michael	LL	RI	DA	FL	RU	RU	PA	Kwa, Timothy	PA	DA	RI	RU	FL	FL	LL
Fraday, Edward	RU	LL	RI	BL	DA	DA	PA	Lau, Nathanael	RU	BL	RI	FL	PA	PA	LL
Friis, Michael	BL	DA	RI	RU	PA	PA	LL	Lazear, Justin	RU	PA	BL	RI	LL	LL	DA
Gage, Gina	RI	RU	FL	DA	BL	BL	PA	Lee, Andrew	FL	PA	LL	BL	DA	DA	RU
Galitzki, Nicholas	PA	FL	BL	LL	RI	RI	RU	Lee, Helen	RI	RU	LL	DA	FL	FL	BL
Gamero, Steve	LL	DA	BL	PA	RI	RI	RU	Lew, Matthew	FL	BL	RI	LL	DA	DA	PA
Gekhtman, Ilya	RI	PA	BL	RU	DA	DA	FL	Li, Li	RU	PA	FL	DA	LL	LL	BL
Gingrich, Todd	DA	FL	BL	LL	RU	RU	RI	Li, Sean	BL	LL	RI	FL	DA	DA	PA
Giri, Gaurav	LL	BL	RU	FL	PA	PA	DA	Li, Wei	FL	LL	DA	RU	PA	PA	BL
Goeden, Nicholas	RI	FL	BL	PA	DA	DA	LL	Ligocki, Shawn	PA	DA	RI	LL	FL	FL	RU
Goldman, Brent	BL	RU	FL	LL	PA	PA	RI	Liu, Yun-Hsueh	RI	BL	PA	DA	LL	LL	RU
Gonzales, Christopher	RI	DA	RU	FL	BL	BL	LL	Lizer, Zachary	PA	FL	LL	RU	RI	RI	BL
Gonzalez, Jessica	PA	FL	BL	LL	DA	DA	RU	Luo, Xuan	RU	BL	RI	DA	PA	PA	FL

Rotation Dinner Schedule

Kim Popendorf
Joanna Cohen
Philip Wong
Hesper Rego
Zac Dydek
Haluna Gunterman
Jason Quimby
Lionel Jingles
Barrett Heyneman

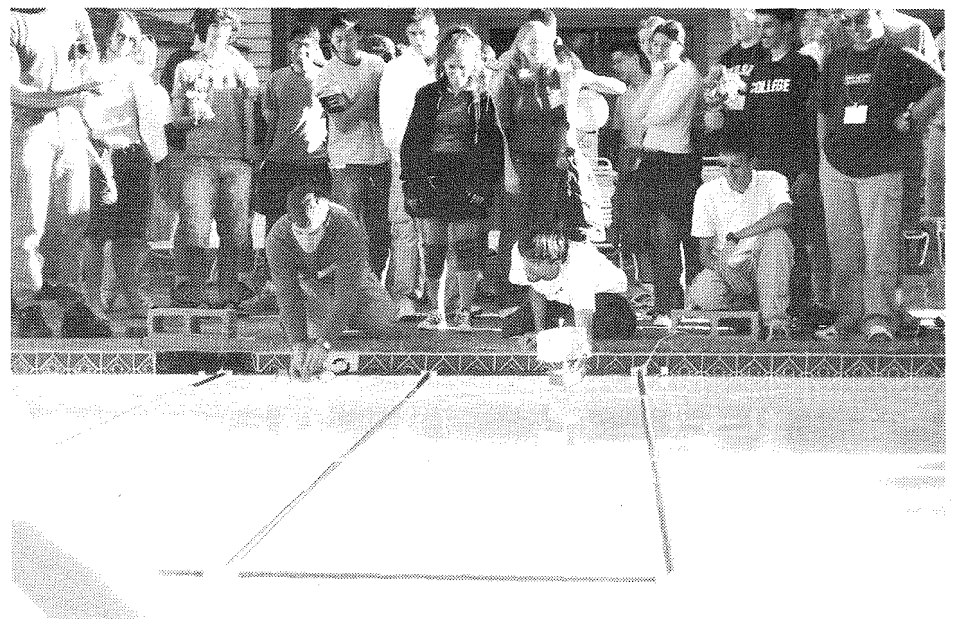
IHC Chair
 IHC Secretary
 Blacker
 Dabney
 Fleming
 Lloyd
 Page
 Ricketts
 Ruddock

kimpop@caltech.edu
 joannac@caltech.edu
 philipw@caltech.edu
 rego@caltech.edu
 dydek@caltech.edu
 haluna@caltech.edu
 quimby@caltech.edu
 lionel@caltech.edu
 heyneman@caltech.edu



Name	Sun	Mon	Tues	Wed	Thu	Fri	Sat
	D	L	D	L	D	L	D
Lyons, Lisa	FL	BL	RI	DA	RU	RU	PA
Mainiero, Thomas	BL	RI	DA	RU	FL	FL	LL
Malmaud, Jonathan	DA	FL	RU	LL	BL	BL	PA
Mao, Wen	BL	PA	RI	FL	LL	LL	DA
Marina, Jonathan	RI	DA	RU	LL	BL	BL	FL
Martinez, Raquel	PA	DA	RI	FL	LL	LL	RU
Mattingly, Sean	BL	LL	FL	DA	PA	PA	RU
McAllister, Keegan	RI	BL	PA	LL	FL	FL	DA
Menon, Parvathy	PA	BL	RU	FL	LL	LL	DA
Mischaikow, Christopher	PA	DA	BL	RU	LL	LL	RI
Miyamoto, Brigitta	RU	RI	PA	FL	BL	BL	DA
Moody, Christopher	RU	BL	LL	PA	DA	DA	RI
Moussaoui, Youssef	RI	LL	FL	DA	BL	BL	RU
Narsimhan, Vivek	FL	RI	BL	RU	LL	LL	DA
Oslund, Kenneth	BL	DA	LL	RI	PA	PA	FL
Pallett, Elliot	RU	PA	DA	BL	LL	LL	FL
Pantel, Erica	BL	DA	FL	PA	RI	RI	LL
Park, Benjamin	PA	LL	DA	RI	FL	FL	RU
Park, Hyungmin	LL	FL	RU	PA	DA	DA	RI
Parry, Christine	RI	DA	PA	RU	BL	BL	LL
Patel, Siddharth	RI	DA	FL	RU	BL	BL	PA
Peek, Sara	FL	BL	LL	PA	RU	RU	DA
Petrova, Krastina	DA	RU	BL	LL	RI	RI	PA
Pickett, Benjamin	FL	RU	RI	DA	LL	LL	BL
Pollock, Drew	RI	FL	LL	RU	BL	BL	DA
Pon, Victoria	BL	DA	PA	LL	FL	FL	RI
Porter, Lauren	PA	BL	DA	RU	FL	FL	LL
Rajagopal, Aditya	FL	PA	LL	RI	BL	BL	DA
Ramadan, Zachary	PA	LL	RU	RI	FL	FL	DA
Raney, Thomas	BL	FL	RU	LL	PA	PA	RI
Raythatha, Mahipal	BL	RU	PA	RI	DA	DA	LL
Remenak, Daniel	PA	RU	DA	RI	FL	FL	BL
Reyda, Tamara	BL	FL	LL	RI	RU	RU	DA
Roa, Mario	BL	PA	LL	FL	DA	DA	RI
Roberts, Jessica	RU	DA	PA	FL	BL	BL	LL
Rocklin, David	RI	PA	FL	BL	LL	LL	DA
Rosen, David	FL	RU	RI	PA	LL	LL	DA
Saraswat, Prashant	LL	BL	RU	FL	RI	RI	PA
Savage, Lauren	RU	FL	PA	DA	LL	LL	RI
Schantz, Christopher	LL	PA	DA	BL	RI	RI	RU
Seitel, Jonathan	RU	BL	PA	RI	LL	LL	DA
Seo, Han	DA	RI	FL	PA	BL	BL	RU
Sexson, Benjamin	FL	LL	BL	RU	DA	DA	RI
Shahir, Mehran	FL	BL	PA	LL	RI	RI	DA
Shao, Weilin	PA	BL	DA	RU	FL	FL	RI
Shatova, Tatyana	RI	FL	BL	DA	RU	RU	LL
Shen, Jing	FL	LL	BL	PA	DA	DA	RU
Shen, John	DA	LL	RI	PA	BL	BL	FL
Shih, Angela	RU	DA	PA	LL	RI	RI	BL
Shirinfar, Shafiqh	PA	RI	FL	BL	DA	DA	RU
Shuster, Anton	DA	PA	RI	FL	RU	RU	LL
Siegel, Alexander	BL	LL	PA	FL	RU	RU	RI
Singal, Akshay	LL	BL	RI	DA	FL	FL	RU
Singh, Sukhmani	DA	LL	BL	PA	RI	RI	FL
Song, Sisi	DA	BL	PA	FL	RU	RU	RI
Sonn, Alexander	DA	LL	BL	FL	RI	RI	RU
Spink, Torrey	RI	RU	LL	PA	BL	BL	DA
Stevenson, Rachel	FL	RU	RI	BL	DA	DA	LL
Stewart, Alexander	RU	LL	FL	PA	DA	DA	BL
Stidham, Sarah	RI	RU	LL	BL	DA	DA	PA
Stokes, Sarah	DA	RU	PA	BL	RI	RI	FL
Stroup, Adrienne	RI	LL	FL	DA	RU	RU	BL
Subsoontorn, Pakpoom	PA	RU	FL	BL	DA	DA	LL

Name	Sun	Mon	Tues	Wed	Thu	Fri	Sat
	D	L	D	L	D	L	D
Surdyk, Shawn	LL	FL	DA	BL	RI	RI	RU
Szweda, Natalie	DA	LL	BL	RU	PA	PA	FL
Tan, Andrew	DA	RI	LL	PA	BL	BL	FL
Tariq, Abdul	BL	RI	DA	RU	PA	PA	LL
Tescu, Simona	FL	RU	RI	DA	LL	LL	BL
Tikoo, Sonia	PA	DA	FL	LL	RI	RI	BL
Tofan, Danel	PA	DA	LL	BL	RU	RU	RI
Tomassi, Paul	BL	FL	LL	RI	DA	DA	PA
Tung, Christine	RU	DA	RI	FL	BL	BL	PA
Underhill, Michael	LL	RI	RU	FL	PA	PA	DA
Voinea, Stephen	FL	RI	DA	LL	BL	BL	PA
Wadsworth, Sarah	RU	LL	RI	BL	DA	DA	FL
Wahl, Mary	RI	BL	RU	FL	PA	PA	LL
Wang, Chenzhe	DA	RI	FL	PA	RU	RU	LL
Wang, Guan	BL	RI	FL	DA	LL	LL	PA
Wang, Karen	LL	DA	RU	RI	BL	BL	PA
Wang, Qian	FL	RI	DA	LL	RU	RU	BL
Wang, Yao-Tseng	RI	LL	DA	FL	RU	RU	BL
Watts, Kevin	BL	RU	LL	FL	RI	RI	PA
Waxman, Eleanor	DA	RI	PA	BL	FL	FL	LL
West, Jesse	BL	FL	PA	RI	RU	RU	LL
White, Erin	LL	DA	PA	RI	FL	FL	BL
White, Michael	PA	RI	DA	LL	RU	RU	BL
Wierman, Matthew	PA	FL	BL	RU	RI	RI	DA
Woods, Michael	RU	BL	DA	PA	RI	RI	FL
Xie, Wei	BL	FL	LL	RI	RU	RU	DA
Yan, Hanwen	DA	PA	RU	BL	LL	LL	FL
Yan, Youyu	DA	LL	FL	RI	BL	BL	RU
Yang, Huan	PA	DA	LL	RI	FL	FL	BL
Yang, Jed	BL	RI	RU	DA	PA	PA	LL
Yang, Lingfeng	PA	RI	BL	DA	RU	RU	FL
Yang, Minghui	RI	DA	FL	BL	LL	LL	RU
Yeo, Hwan-seung	DA	FL	PA	RU	LL	LL	BL
Yim, Jennifer	DA	PA	FL	RI	LL	LL	BL
Yu, Shawn	LL	FL	DA	RI	RU	RU	PA
Zahl, Joshua	RU	LL	RI	PA	FL	FL	BL
Zavodny, Max	RU	BL	FL	LL	PA	PA	RI
Zerrade, Sami	RU	RI	DA	LL	BL	BL	PA
Zhang, Yan	RU	FL	BL	RI	DA	DA	PA
Zhang, Zhong-Lin	PA	LL	RI	DA	FL	FL	BL
Zhao, Ziqing	LL	DA	FL	PA	BL	BL	RU
Zhou, Brian	BL	RU	DA	RI	PA	PA	FL
Zhou, Yifan	LL	BL	PA	DA	RI	RI	FL
Zhu, Yaning	DA	PA	RU	LL	RI	RI	BL



Elite Engineers Wanted

Space Exploration Technologies (SpaceX) is looking for superlative engineering talent to revolutionize human and robotic space exploration.

For three decades, the cost and reliability of access to space have barely improved. SpaceX is on a mission to improve both by an order of magnitude.

Our starting point is the mostly reusable Falcon I orbital launch vehicle, which is being developed entirely from a clean sheet, including:

- Main engine and turbopump
- Restartable upper stage engine
- Primary structure of both stages
- Avionics & guidance
- Fairing
- Launch operations

The company was founded in June 2002 and now, only two years later, we have a rocket on the launch pad. This is the fastest launch vehicle development in history, including wartime. Merlin, our main engine, is only the second American rocket booster engine developed in twenty-five years.

There will be no demonstration flights – we have paying satellite customers for our first three launches.

However, Falcon I is just the beginning. Our future plans call for heavy lift human transportation, and we need the best engineers on the planet to make it happen.

SpaceX will be on your campus on October 13th. Stop by our booth for more information or visit our website at www.spacex.com. You are also welcome to submit your resume along with a brief description of why you believe you rank among the top 1% of engineers to jobs@spacex.com.

Note: US citizenship or permanent residency is required by law, due to the sensitive nature of the technology.


space.com

SPACEX

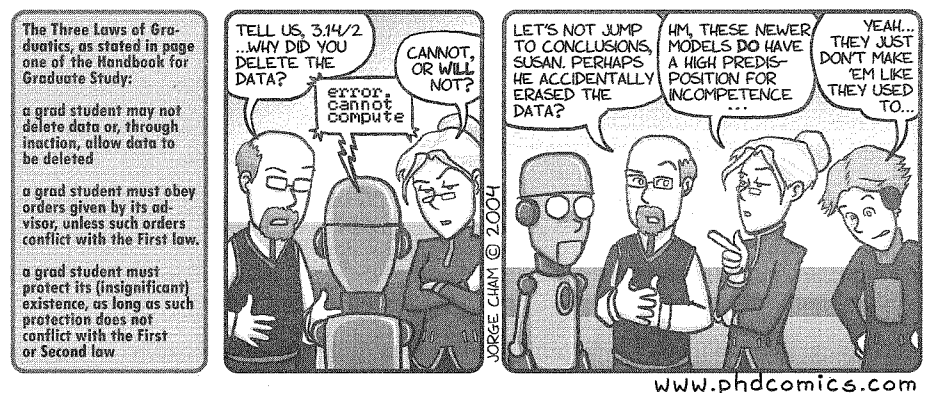
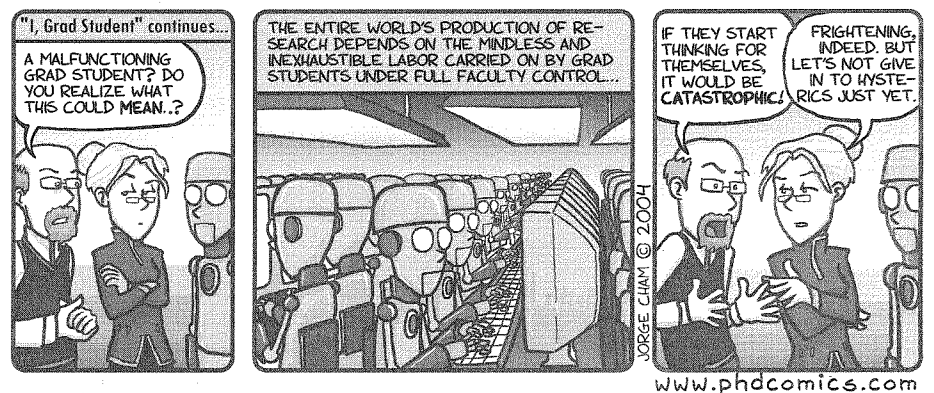
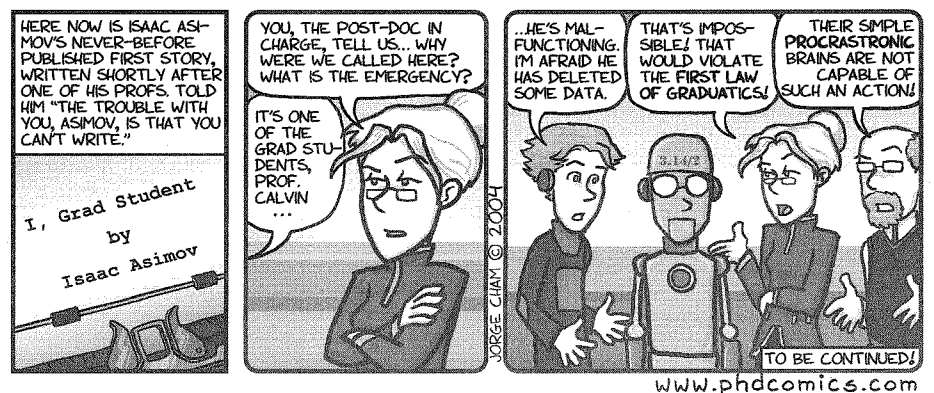
Space Exploration Technologies

PILED HIGHER AND DEEPER

by Jorge Cham



www.phdcomics.com



Da Vinci Outdoors Club

www.its.caltech.edu/~outdoors

A new club was established this year at Caltech. The mission of the Caltech Da Vinci Outdoors Club is to enable members of the Caltech community to pursue a variety of skill-intensive outdoor sports, such as canoeing, climbing, kiteboard, kayak, mountaineering, paragliding, sailing, scuba, surf and windsurf, waterski, and more, by providing instruction clinics, equipment, and possibly organized trips. If you are interested in one or more of these activities, sign up for our mailing list by visiting <https://utils.its.caltech.edu/mailman/listinfo/davinci>.

Equipment available includes a kitesurf Peter Lynn ARC kite and board, as well as a kiteboard training DVD (Boost II), courtesy of the SIF, a whitewater kayak, 2 single expedition kayaks, 1 double expedition kayak, and 2 sit-on-top surf kayaks with full gear, as well as several books on kayaking and on coastal and river outings in So. Cal. and Baja California, courtesy of the Moore-Hufstедler Fund and the Caltech Alumni Association. We also have received a donation of a 12-foot, open cockpit lake kayak from Shane Murphy. Email outdoors@caltech.edu to check out equipment. Photos of most equipment are available on our website.

Sea kayaking, and ice-climbing courses have been offered recently, and eskimo roll, first aid, avalanche are planned for the future. Subscribe to our mailing list to get course sign-up notices.

Ballroom Dance Club

- Ballroom Boot Camp
 - When: Mon, Tues, and Thurs 9/27, 9/28, 9/30
 - 9-10:30pm on Mon and Thurs, 9:30-11pm Tues
 - Where: Winnett Lounge
 - What: Learn 6 dances in 3 nights! Monday: Tango and Cha Cha; Tuesday: East Coast Swing and Modern Jive; Thursday: Waltz and Rumba.
 - Cost: Free!
 - No partner or dance experience needed.
- Ballroom Bash Dance Party
 - When: Sat. Oct. 2, 8pm - late
 - Where: Avery Dining Hall
 - What: Student and professional dance demos, dance mini-lessons, mixers, refreshments, and plenty of ballroom, latin, and swing music all evening long!
 - Cost: Free
- East Coast Swing
 - 5 Mondays starting Oct 4
 - Winnett Lounge, 7:30-9pm
 - Taught by professional instructor Andre Fortin
 - \$25 for the series or \$6/class for Caltech students; \$35 (series) / \$8 (per class) for nonstudents

The California Tech is looking for new writers, photographers, editors, layout persons, and minions in general. Get paid or get credit for working with The Tech! Email tech@tech.caltech.edu if interested.

Bernie Mac's *Mr. 3000* Falls a Few Runs Short

By HARRISON STEIN

A diehard sports fan, I'm the first to admit that sports films rarely work. *Field of Dreams*, *Raging Bull* and *Jerry Maguire* are three of my all-time favorite movies, but they triumphed because sports were of secondary importance, a small fish in a sea of thoughtful writing and brilliant performances. Formulaic sports films where the underdog triumphs over incredible adversity are becoming stale and predictable, and more than anything, this genre needs a shot in the arm.

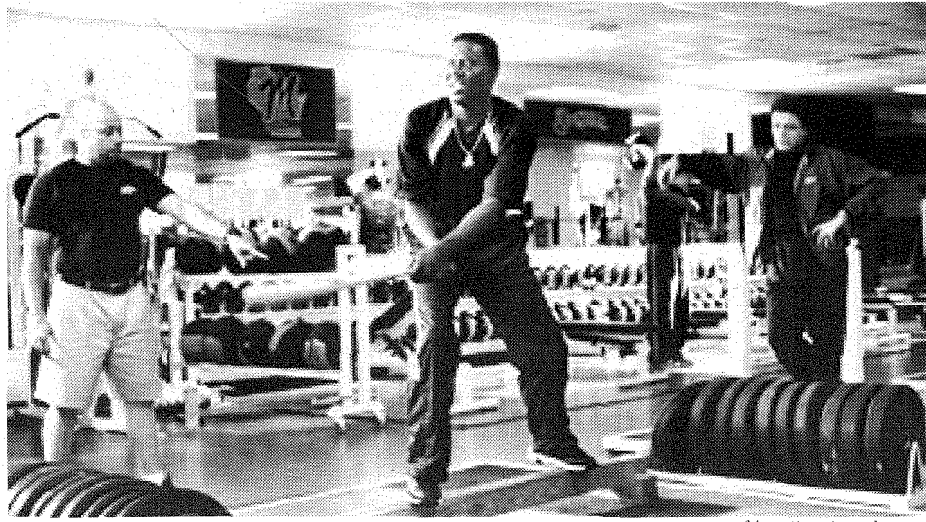
Comedian Bernie Mac makes his first foray into leading man status in the refreshing, but ultimately tedious new baseball comedy *Mr. 3000*. Mac stars as 47-year old former Milwaukee Brewers star Stan Ross, who knocked 3000 hits during his illustrious career, but in the process knocked fans, reporters and teammates with his biting comments and blatant selfishness. The most serious of his transgressions was abandoning the Brewers in the middle of the pennant race as soon as he collected elusive hit 3000.

Dubbed *Mr. 3000* after his playing days ended, Ross longs to enter the Baseball Hall of Fame, but like Pete Rose, finds enormous resistance from the same sports writers he berated during his career. The writers get even more ammunition to fight his hall of fame campaign when team officials determine that three of Ross's hits were accidentally counted twice and Stan is actually *Mr. 2997*. Ross, an aging,

over-weight, out of shape athlete who is past his decline, selfishly decides to return to the loser Brewers in order to collect his three hits and ride his accomplishment into the hall of fame sunset.

What follows is a charming story about an unlikely underdog who trades in his cusses for words of encouragement, strikes up an unorthodox, but fulfilling relationship with an ex-flame turned sports reporter (Angela Bassett), and tries to alter the fortunes of the downtrodden Brewers. The movie has a very funny premise and some genuinely entertaining moments, but in the end, nothing about the film is particularly memorable. Bernie Mac is an amusing actor, but he is so mean-spirited that the character's transformation is implausible. He's very effective as a supporting actor in light-hearted movies, but like fellow comedian-turned-actors Chris Rock and Dave Chapelle, Mac does not appear to be able to carry a picture on his back.

The baseball sequences in *Mr. 3000* are very well-shot, accurately paced and entirely believable. Unlike most sports films, this one received permission to use major league teams, logos,



courtesy of <http://movies.yahoo.com>

In this end-of-summer flick, Bernie Mac plays a 47-year old former Milwaukee Brewers baseball star. However, like most sports movies, this one doesn't quite make the cut.

and stadiums and consequently, the final product is considerably more polished than the average baseball flick. The scenes filmed at Milwaukee's Miller Park are especially well done and the film also makes great use of the Brewers' sausage mascots who were famously nailed by former Cubs first baseman Randall Simon last year.

Because the Brewers are a fifth place team with less than thirty games left in the season, they have no chance for first and are merely playing for third (in real life, they are a sixth place team playing for fourth). As a result, the action simply isn't that interesting, and we root more for Stan Ross to get his 3000th hit than for the Brewers to finish in third place. This feeling, however, is contrary to

the team-first, altruistic message the movie is trying to convey, and as a result, the unexpected ending is both pleasing and unsatisfying to the confused viewer.

Mr. 3000 is a classic case of a movie that probably would have worked better as a one hour television special. The movie is periodically hilarious and its baseball IQ is surprisingly high, but the picture is rather dull once the action leaves the diamond as there really isn't enough material to fill 90 minutes. The acting is about as good as you can expect from a low-budget sports comedy, but the movie gives you an overarching feeling that something is missing. In the doldrums of August and September, *Mr. 3000* is a rare bright light in a lowly pile of Hollywood trash that wasn't good enough to play in the summer, but at the same time, it is not one of those exceptional sports films that transcends the genre. All in all, even though it doesn't strike out, *Mr. 3000* is unable to reach base. **1/2 out of ****

Fall Sports Teams Begin New Season

By MIKE RUPP

Caltech sports are off to a strong start for the 2004-2005 season.

The Men's Soccer team opened its season with a 2-0 victory over Bethany College. It's the first shutout the team has had over an opponent since a 2-0 victory over Occidental in the 1993 season. The team hopes to build off their success from last year, which featured a thrilling 3-2 OT win against conference foe Whittier.

The Women's Volleyball team opened with a 5-2 record, including a second place finish at the 2004 Caltech Invitational, led by senior outside hitter Kristen Zortman. The team should be ready for their tough SCIAAC Conference schedule, beginning this week.

The Men's Water Polo team struggled its first few matches, but then rebounded with an incredible win over Occidental College, one of the Top 10 teams in the country. In this week's Division III Men's Water Polo poll, Caltech was tied for 10th, cracking the Top 10 for the first time in years. The team's tough schedule will keep them in position to win more upsets all season long.

Finally, Caltech Cross-Country has also started its season strong. The Men finished in second place at the 2003 Redlands Invitational behind Freshman phenom David Rosen's time of 28:25.5. Rosen also was the top performer for Caltech at the Cal Lutheran Cross-Country and the Westmont Invitational. On the Women's side, Senior Andrea Vasconcellos has twice finished first for the team. Both the Men and Women will run next at the SCIAAC Multi-Duals in October.

Check out all the action all year long at <http://www.athletics.caltech.edu>.

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The D. E. Shaw group will be attending the CalTech Career Fair on Wednesday, October 13 from 9:00 am to 3:00 pm on Bechtel Mall. On-campus interviews will take place October 14.

Members of the D. E. Shaw group do not discriminate in employment matters on the basis of race, color, religion, gender, national origin, age, military service eligibility, veteran status, sexual orientation, marital status, disability, or any other protected class.

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From an Upperclassman to the New Prefrosh: How to Treat Your Elders

By TONY FALK

So, as far as I know, this issue of the *Tech* is read mostly by the prefroshies (you're not frosh til the cannon fires, and don't you forget it) as opposed to the rest of the year, when it is read mostly by no one, so I'll devote a column to giving you guys some advice.

Since your first week involves attempting to get used to classes and checking out everything for rotation, you need to learn time management. The trick is to never sleep, and don't do anything but 10 minutes of quick problem set faking, and spend all your time

might ask me, but I would ignore you, because you should be saying, "Sir, how do I greet an upperclassman, sir." And yes, everyone that isn't a prefrosh falls into my category of upperclassmen.

Once you've mastered approaching and greeting upperclassmen, you should be careful not to offend them. Don't ask questions we don't want to answer (for example, if you are a guy, don't ask an upperclassman guy "If you're so cool, why don't you have a girlfriend?" Also, don't ask an upperclassman girl, "Why don't you be my girlfriend?" If you are a girl, you can ask the guys any questions you want. Many are so desperate for female attention that you can get them to balance a treat on their nose and flip it into their mouth.) Another way to make sure you don't make a bad impression with the upperclassmen is by agreeing with them no matter what they say. In addition, always remember that as a prefrosh, you have no rights. Here is a pair of conversations, to demonstrate the difference between a good and bad way to introduce yourself.

Prefroshie: Yes sir!

Bad:
 Prefroshie: Yo, watcha doin?
 Upperclassman: Not much, why?

Prefroshie: Cause you suck and all the fine ladies hate you!

Upperclassman: Why you miserable, little...

Prefroshie: Ha ha ha ha ha!

Upperclassman: (Beats the prefrosh senseless with a rolled up newspaper)

So you see, the second student failed to address the upperclassman as sir.

Now, in addition to learning about the houses and meeting upperclassmen, you're going to have to deal with classes. While classes aren't very important, you should know which ones you are in, and even attend sometimes, because otherwise your parents will stop paying tuition, and you'll end up as an uneducated hobo (instead of a well trained hobo) living under the freeway. If you must go to physics, either sit in the back and sneak out the hidden door after you get bored and lost, or sit in front and constantly ask the professor if he is going to show you any really old books. In chemistry, you're going to want to ask how many days it would have taken to teach Stanford kids the same material, as often as possible. You should maintain lively and attentive discussion in your humanities classes. And as for Math 1a, you should, um...well... I guess that's one I wouldn't bother to go to very often. The most important thing for you to remember is that the first two terms are pass/fail, so you should make fun of anyone who passes all his or her classes with A's. And take their lunch money.

Now you're prepared for life at Caltech. Unless you're looking for an education. That's not really my department.

Good:

Prefroshie: Sir, Mister Upperclassman, here is some candy and several 20 dollar bills, sir!

Upperclassman: Thank you, do you like Caltech?

Prefroshie: I like it exactly as much as you think is proper!

Upperclassman: I hate you. Go away!



The California Tech Archives

Prefrosh should most definitely follow the advice of columnist Tony Falk, shown here playing a trash can drum.

meeting upperclassmen. The best ways to meet upperclassmen are to bring them a gift, like some candy, food, or cash. Some will accept a contract pledging to do all their work for the year instead, but they won't really respect you. I know I won't.

"How should I greet an upperclassman?" is a question you



courtesy of www.capsteps.com and www.boyschoirofharlem.org

The Capitol Steps and the Harlem Girls Choir are among the quality performances planned for the new season brought to the community by Caltech Presents.

Caltech Presents 2004-2005 Season of Events

By TAMMY MA

Caltech is renowned for its small size, but by the varied cornucopia of performances slated for the 2004-2005 school year brought to us by *Caltech presents*, you probably wouldn't guess.

For 41 years, Caltech Presents has offered audiences culture and entertainment from around the globe. To highlight the diverse heritage of our culture, the theme for the 2004-2005 performing arts series is The Americas. Says Denise Nelson Nash, Director of Public Events, "Caltech is like a small microcosm, we're very diverse; we have people from all parts of the world, different cultures, different languages. This year we want to have a celebration of our roots."

Each year Caltech presents more than 150 events in a variety of venues on campus. These events range from theater and music to comedy and film, many featuring world-renowned artists. However, students often don't take advantage of the great opportunity to spend an enjoyable night at a very affordable price. For all Caltech Presents events that are not already free, student tickets are \$5 for the best seats available at time of purchase.

pre and post discussions. Some of the creative thinkers visiting Tech this year include:

Bob Schieffer

Anchor and moderator of Face the Nation
 Thursday, October 21, 2004

Steve Johnson

Author and techno-cultural historian
 "Everything Bad is Good for You: Why Today's Pop Culture is Making Our Kids Smarter"
 Thursday, November 4, 2004

Malcolm-Jamal Warner

Actor and activist
 "From The Cosby Show to Today: The Effects of African American Images on Television"
 Thursday, February 24, 2005

Lela Lee

Cartoonist and filmmaker
 "What's a Girl Got to Be Angry About?"
 Thursday, March 31, 2005

For years, Caltech Presents has offered a Family Series designed for children and their families. Returning by popular demand is the Saturdays at 2:00 series that combines science and entertainment in a live performance event. New this year is Science Saturdays at 2:00, which will feature high-definition science and nature films, followed by discussions with Caltech scientists. Graduate and undergraduate students will be leading the discussions. It will be a great outreach opportunity, and students interested in helping out should contact the Public Events office.

Planned for the Family Series are:

Saturdays at 2:00

Mark Nitzer: Juggling and Technology
 Saturday, November 20, 2004

Lazer Vaudeville
 High-tech laser and magic show
 Saturday, January 29, 2005

Science Saturdays at 2:00

Walking with Dinosaurs
 Saturday, October 30, 2004

Space-Boldly Go
 Saturday, February 26, 2005

For information about these and many other events visit the Caltech Presents website, <http://events.caltech.edu>, or call 1 (888) 2CALTECH (222-5835).

Among some of the events featured in the 2004-2005 season of performing arts will be:

Les Percussions de Guinee
 Amazonas with the Women Master Drummers of Guinea
 Friday, October 8, 2004

Lunasa
 Irish acoustic band
 Saturday, October 23, 2004

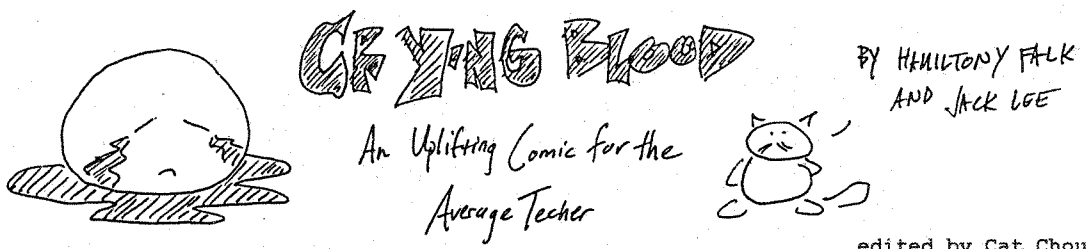
The Persuasions
 A cappella five-part harmony
 Saturday, December 4, 2004








Girls Choir of Harlem
 Saturday, April 2, 2005

Capitol Steps
 Friday, Saturday, and Sunday, April 29, 30 and May 1, 2005

All performing arts series performances are held at 8 p.m. in Beckman Auditorium, unless otherwise indicated.

Another series brought to the Caltech community by Caltech Presents in collaboration with Vroman's Bookstore, the Hixon Writing Center, the Caltech Y, the Women's Center, and the GSC is Voices of Vision. All events on the Voices of Vision series are free and open to the public. Interested students can also attend



<p>since rotation is coming up, we felt it a good idea, nay, imperative, that we do our public duty and say what "they're all fine houses" really means...</p>	<p>(1) i love everything and everyone at caltech!</p> 	<p>(2) i hate this freaking place- rotation sucks</p> 	<p>(3) poor frosh...so confused...MUAHAHA</p> 
<p>welcome to a new year! hi - i'm tony.</p> 	<p>and i'm jack</p> 	<p>this year, we're going to better address readers' concerns</p> <p>as one reader states, we're "craptastic"</p> 	<p>so i had this great idea- just straight up copy crippling depression, a classic teacher favorite!</p> <p>moron, that's illegal!! you're supposed to learn how to draw better!</p> 

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Thursday, October 14th, 2004

Time: 5:00 pm – 6:30 pm

Location: Dabney Lounge

Interested applicants should apply by e-mailing their resume and cover letter to: quantrecruiting@gs.com

Games, Skits, Advice Endured by Freshmen

Continued from Page 1, Column 3

counselors, sporting blindingly bright orange t-shirts and waving various country flags herded their groups of pre-frosh around to the different presentations and discussions.

The pre-frosh took turns attending sessions titled the Honor System, Challenges and Choices and Beach Games. Upperclassmen, faculty and staff helped make the activities a success and to vividly portray the various issues central to Caltech life.

Members of the Board of Control and the Conduct Review Committee elucidated the full meaning of Caltech's Honor Code for the new students. Joey Moussaoui considered the Honor Code "vague in nature, being only one sentence long." However, he really felt that "the concrete examples provided in the presentation will help to prevent a good number of violations."

The Counseling Center and Health Educator sponsored a series of skits designed to present the Challenges and Choices all Caltech students will be faced with during their time here. Pre-frosh seemed to find the skits often quite enjoyable. Joey remarked that the skits were even "very comical" at times; however he admitted, the issues addressed would eventually be "things you learn by experience."

Finally the upperclass counselors helped their groups of pre-frosh build teamwork and cooperation skills--so important to collaboration here at tech--through a series of "Beach Games." The fact that these were played in the parking lot made them "inherently more amusing" for pre-frosh Leighland Feinman. Yuliya commented that "people in my UCC group didn't really talk to each other much, but the games forced them to."

Groups also enjoyed getting together to work on boat design projects. The cleverly named "Ducktape Demon" won the final race. Being a very wide boat unable to travel straight, it went up against many boats that didn't go anywhere at all. However, the first time it actually traveled more than halfway across the course

came in the very last race, allowing the boat to clinch the title.

In the mornings UCC's were often required to round-up their sleepyhead pre-frosh, many of whom dozed through breakfast due to the long days of planned events and spontaneous socializing.

Tuesday night brought the frosh the opportunity to show off their own quirky and special personality and talents. Acts in the talent show covered a very broad range from outstanding electric guitar and harmonica playing to stand-up comedy and Korean hip-hop dancing. Dean Revel also treated the audience to his delightfully narrated and enthralling drawing act.

After the talent show, upper-class participants of frosh camp gave the students hints as to the personality of their own particular houses through a series of seven skits. Plots included parodies of a UCC's plight, being a new frosh in a house and a graduating Techer approaching the rest of the world. Both Lloyd and Page Houses created dating games (although Lloyd's involved four girls and a bachelor, while Page's skit starred four guys, none of whom were chosen by the bachelorette).

A dance for the pre-frosh ensued, lasting well into Wednesday morning and surprisingly, the new students filled the floor of the resort's ballroom for a good time. Of course not all the pre-frosh were into that. Joey Moussaoui "looked around to see if it was worth it," but complained "it was a dance where they played Britney Spears." He good-naturedly joked that he'd call it a "geek party, but maybe I'm just defending myself!"

While many UCC's reported instances of eager pre-frosh excitedly discussing math problems on the way to Frosh Camp, two packed days and late nights led to lots of slumbering frosh on Wednesday's bus ride away from camp. With heads tilted back and mouths ajar, the pre-frosh traveled back to Caltech, hopefully a little more prepared and ready to take on their frosh year.



Pre-frosh attempt another team building exercise.

T. Ma/The California Tech



The Japan group led by Penny Gunterman practices their teamwork by attempting to traverse the parking lot on wooden slats.

T. Ma/The California Tech

Gray Inspires Passion for Science During His Convocation Speech

Continued from Page 1, Column 2

solar power is not an effective alternative.

Research in Gray's group is focusing on emulating nature's method of using light to split water into hydrogen and oxygen. The structure of a manganese complex that easily catalyzes water has been mapped. The group will use this information to develop a structure to build a water splitting device to "save the planet," as a cheap alternative to oil.

Gray ended his talk by offering some advice to the pre-frosh. He recommended that students get involved with a research group as soon as possible to really get a chance to explore their love for science. A lot of the boring courses are the price that you have to be able to do the science that you love.

Paul Jennings, Caltech's new provost and alumnus, spoke next on the topic of academic integrity. An avid fly fisherman, who enjoys repairing bamboo rods, Jennings is also a leading figure in earthquake resistant engineering. He served as Caltech's provost from 1989 to 1995 and has recently returned to the position after Dr. Steve Koonin stepped down last spring.

Jennings labeled scientists and engineers as holders of specialized knowledge, which gives us an important responsibility to the public. The need for objective and honest communication is a key to the scientific method; without it, science could not move forward. Often the results are black and white ("the gizmo either works or doesn't") and there isn't difficulty in reporting. Sometimes, however, pressures to produce results, deadlines and surprising results may influence scientists to exaggerate their results.

Jennings contends that integrity is "the most important professional asset" because it's "based on a lifetime of behavior." Losing your integrity can thus be a career ending move. Similarly, scientists must learn to disagree without being disagreeable because it could

lead to emotional situations. A question at the National Institute of Health about the ethics of scientists working as consultants for corporations illustrated this point.

Dr. Judith Goodstein, University Archivist and the "ultimate authority on Caltech," offered a history of the early days of Caltech. Caltech was founded in November of 1891 as the modest Throop University. The first step towards its international reputation of distinction came with the building of a telescope on Mount Wilson by George Ellery Hale. Hale became involved with the university and set out to turn it into a pre-eminent science learning center. He began by coaxing his friends Arthur Noyes from MIT and Robert A. Millikan from the University of Chicago to join him in Pasadena.

In 1920, Throop is renamed as the California Institute of Technology. That same year, Caltech holds its first doctoral dissertation defense and graduates its first PhD. Millikan and Noyes also began recruiting a group of elite scientists to lead the research and teaching corps. Von Karman, who solved the problem of Galloping Girdy, Linus Pauling, Earnest Swift, J. Robert Oppenheimer and Paul Ehrenfest were among the greats that joined the faculty. Visits by Albert Einstein in 1931, 1932 and 1933 capped Millikan's quest to turn Caltech into a science powerhouse.

Caltech's history entered another chapter with the presidency of Lee DuBridge. During his reign, the faculty increased from 260 to 550, including the renowned Richard Feynman. The endowment increased from \$17 million to over \$100 million while DuBridge was at the helm. DuBridge served as president from 1946-1969, when he resigned to become President Nixon's science advisor.

President Baltimore, Nobel laureate and wine connoisseur, concluded the ceremony with a summary of some current research going on at Caltech. Ahmed Ze-

wail, Caltech's most recent Nobel recipient, developed a way to use rapid laser pulses to see how atoms move during chemical reactions. Improvements allow his system to work on the femto-second scale, helping give chemists an insightful look into chemical reactions. He's now working on a way to look at macromolecules in biological systems in the same way.

Sossina Haile's group is trying to design a practical fuel cell. They have had success in using solid acid fuel cells for prototypes in cars. Marianne Bronner-Fraser studies how the nervous system forms. The neural crest cells, which develop into neurons, pigment cells and cartilage, are a critical part of her research. She's studying the molecular signals that cause different cells to form from the neural crest cells. Yu-Chong Tai is fascinated with miniature devices. He has designed a micromotor and a flow controller that works in picoliters per second. He is currently trying to develop a device that battles macular degeneration.

The ceremony closed with the introduction of a variety of community leaders. Deans Hoffman and Revel were introduced to the students, along with the division chairs and the leaders of the student government and honor code boards.

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