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 “market of a new academic year.”

Marshak wasted no time jump-ing into the morning’s exciting program, introducing the first speaker, Dr. Harry Griy. Griy has been a professor at Caltech since 1986, currently serving as the Arnold O. Beckman Professor of chemistry. He is also the Found-ing Director of the Beckman In-sti-tute. Gray has received many awards, including the National Medal of Science and the Priest-ley 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 civi- lization 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 cataly-sis. If 1.7% of the United States’ land was converted to light capture devices, it would col-lect enough energy to power the country. Unfortunately, price is a pro-hibitive factor, so switching to

Continued on Page 12, Column 1

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 Kar-man Lecture Series, Dr. Nora Mainland, the Genesis Payload and Navigation Lead gave a talk titled “Catching a Piece of the Sun: The Genesis Sample Return Mission” on Thursday September 17 and Friday September 18.

The goal of the Genesis mis-sion was to collect and return to earth to 10 to 20 micrograms of solar wind from outside the influ-ence of Earth’s magnetic field. Scientists believe that pieces of the solar wind resemble the dust, gas and ice from which the vari-ous 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, sulphur, silicon and dia-mond 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 de-ployed the appropriate collector.

Besides the landing, Mainland described, the mission was hugely successful. Its target col-lection period was 22 months and it exceeded that goal by collect-ing 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 ad-dition, 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 recov-ery 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 cluster-a rectangular parachute 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 des-ert 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 humourously, Dr. Main-land said, “What I’m here to tell you tonight is all is not lost.” Due to a rain the week before, the dessert 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 “com-
Scientists Prepare To Study Recovered Tiles

Continued from Page 1, Column 5

felt-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 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 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 to prominent scientists for outstanding contributions.

"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 subduction.

Kanamori was one of nine award winners honored with the Japan Academy Prize, and accepted his award, consisting of a medal and $90,000, at a ceremony in Japan on June 14. Kanamori said 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."

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MIT/Caltech Report Offers Plan "To Improve Reliability of Voting"

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

"The problem is that we are not confident that the voting process is as accurate and reliable as it should be," he said. "This is a matter of public trust and confidence in our democracy."

The report also includes several steps that the group believes are necessary for avoiding lost votes in November.

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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.

-Integrate the EAC's recommendations that the curation team at 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.

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

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Southern California’s frequent earthquakes make it a site on the San Andreas Fault of interest to geologists, including one of the authors of a study recently published in Science.

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 these gullies by nearly 8 meters, more than triple the motion recorded in the past few thousand years. Older gullies had 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 example, 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 represented 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/wal tecreek/.

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Welcome to the start of what promises to be a wonderful year! I hope that you find the productive and enjoyable summer and are ready for all this year will bring. Our key objective is to ensure that we have sufficient personnel to support our services. We encourage you to contact us if you need assistance within Student Affairs.

With the departure of Timm­

1. Downe, Mark Harriman is serv­

2. ing in the Interim Director of Or­

3. ganization, and Recreation. Because Dow­

4. neys also served as Inter­

5. im director of the Office for Minor­

6. ty Student Affairs, Stanley Borodinsky, Chief Student Affairs Adminis­

7. trator, is now responsible for develop­

8. ing the Office of Fellowship Advising and 

9. Services (CABS) into the leadership to create and sustain a sup­

10. portive campus environment for minor­

11. ties. Borodinsky oversees the Office of Fellowships Advising and Services (CABS) and has served in several positions, including the position of Assistant Director for Academic Support Services. New to the College is Jay Blackburn, who has been appointed as the Assistant Director for Academic Support Services. The CABS team is also joined by two new members for the fall term: Mindy Mallie, who has been appointed as the Manager of Academic Support Services, and Miriam Frick, who has been appointed as the Assistant Director of Academic Support Services.

Besides being a great cabana boy, the talented Tom Mansell will take on the position of Assistant Vice President for Student Life. He will be responsible for the development of the Office of Student Affairs. He has extensive experience in higher education administration, having served as the Director of Student Life at the University of California, Santa Cruz, and as the Associate Director of Student Affairs at the University of California, Los Angeles. He is a graduate of the University of California, Los Angeles, where he earned a Bachelor of Science degree in Political Science.

The purpose of the rules is to keep all new students from being unfairly biased towards or against any house. Please follow the spirit as well as the letter of these rules throughout the week. The rules are in effect until 5 pm on Saturday, October 2.

At the end of Rotation you will hopefully be in a house that fits your unique char­

1. acter, where you will make friends and have experiences that will be some of the best experiences of your time at Caltech. If you have any questions about any part of Rotation or have any concerns, don’t hesitate to contact anyone on the IHC.
Procedures

1. 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 seeing other new students as a commodity. The new students 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 Houses reserve 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 random House. This will be the first House that the new student will be associated with. The House to which the student is associated will be selected in rotation beginning with the seven Houses.

3. For the first six days of Rotation week, (Sunday through Friday) each new student visits a different House and the seven House Presidents, who are responsible for their Houses, will interview or meet with the new students. Each new student will also visit the Houses for lunch, in an order determined by the following mapping:

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* 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 Houses equally.

4. All new students must choose at least four of the seven Houses which they would prefer to visit and submit a list of house preferences 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 make it available only to the House Rotation chairman, only after all changes are finalized. This list will be used by the IHC to determine the rotation sequence by scheduling the Houses in such a way that no new student will visit a House of which they have already visited, unless that new student has been previously assigned to the House by the IHC. These House Presidents will then submit a list of house ratings to the IHC. The IHC will then determine the house preferences for each new student and compile a list of all the new students that are interested in any of the members.

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 to help new students adjust to the new House. 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 entered. Every effort possible will be made to obtain all 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 disparage the results to their House Rotation Chairman. Information concerning whether or not the House President is willing to accept such messages (e.g. ratings in electronic or written form) 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 and 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 not 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

These 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 final (that is, on the Sunday before the first day of classes in the Rotation week).

These rules are in effect from 7 PM on Saturday of Rotation week.

1. Throughout the week, the term “House” refers to both the organization as a whole and any of its members.

2. People who could be construed as representing the House:

a. Full dues paying House members who are currently registered as undergraduates
b. Full dues paying House members who are not currently registered as undergraduates, but plan on coming back

c. Social members who are currently registered as undergraduates
d. Social members who are not currently registered as undergraduates, but plan on coming back

e. Alumni and former students
f. Unaffiliated students

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

This includes new students providing alcohol to other new students, if they are over the age of twenty-one.

4. Houses are specifically prohibited from the following during Rotation:

a. house receptions, ad campaigns, exhibits, or other events on a case-by-case basis because these people could still cause an unfair bias.

b. serve refreshments at these receptions

c. prohibit those who are not current full House members from attending these receptions

d. 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.

e. publish any unregistered literature which is inappropriately reproduced

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

5. New students are specifically prohibited from unfair biasing other new students toward or against a House.

a. making a trophy or alley challenge

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

b. publishing a social calendar or relating in any fashion future social events, except during prefr Ashend week.

4. New students are specifically prohibited from the following during Rotation:

a. unexpectedly biasing other hall members

b. publishing a social calendar or relating in any fashion future social events, except during prefr Ashend week.

The purpose of this rule is to avoid having some groups come together and manipulate outstanding offers about future social events. Comments about past social events are perfectly okay, if it is made clear that these people are the people that it happened in the past. During prefr Ashend week, the Houses are allowed to leave their social calendars up as it reflects a practice of Caltech during the time period before the first official check-in day. During Rotation week, these calendars will be taken down from everywhere (on the Web and in the House).

c. organize 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.

j. New students can go to parties 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 social events.

k. Alcohol provision (by any student) and drinking (by any new student) will both be considered violations.

We realize that upperclassmen coming back want to have fun and party before the school starts and we want to accommodate this. During the social events, almost no exceptions to this rule will be made. Organizing a pick up game of sports is typically not a violation of this rule.

l. For small, unofficial social events (e.g. watching a movie in Old Pas, going bowling) that involve no new students, the following guidelines are suggested:

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

a. There are a lot of gay Booty House-ers,

b. All Booty House-ers are literature majors and heroin addicts.

c. 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 score a new student away from a House.

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

iii. Don’t spread rumors. Be aware that your facts may be wrong, and beware of stories you hear through the grapevine.

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

This is important that a new student get as much information as possible in order to make the best decision. New students are given some credits for discerning a highly biased positive or negative opinion.

The specific 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 number of the IHC.

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

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

a. loss of right to House rating (e.g., new student will be considered to have rated all seven Houses equally)

b. loss of draft choices
c. loss of privilege to live on campus
d. any other punishment determined by the IHC
## Rotation Dinner Schedule

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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
- Faring
- 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.

Da Vinci Outdoors Club
www.itx.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, mountain-chong, paragliding, sailing, scuba, 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-Hufstedler 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
  9:00-10:30pm 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 trumped because sports were of secondary importance, a small fish in a sea of thoughtful writing and brilliant performances. Formulic sports films where the underlying triumphant 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 memorable of his transgressions was abandoning the Brewers in the middle of the pennant race as soon as he collected elusive hit 3000.

Disdained Mr. 3000 after his playing days ended, Ross signs 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 ball of fame campaign when team officials determine that three of Ross's hits were accidentally counted twice and Stan is actually Mr. 2977. 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 status.

What follows is a confusing ramble about an unlikely underdog who trades in his circumstances for words of encouragement, strikes up an unorthodox, 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 sequences, 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-actor 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, 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 Derek Jeter in 2001.

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 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 do_lddrums of August and September, Mr. 3000 is a rare bright light in a lousy pile of Hollywood trash that isn'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.

If you have a master or doctor degree, you should go to: www.MyFirstClaim.com

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Yes, you.

It isn't always clear to people at first that they're right for the D.E. Shaw group. Like the poetry MFA, we hired to head an automated block trading unit. Or the woman who designs solar-powered race cars; we hired her to help launch a new venture in computational chemistry. They didn't think of themselves as "financial types," and neither did we. We thought of them as people with extraordinary talent.

The D.E. Shaw group is an investment and technology development firm. Since 1986 we've grown into a number of closely related entities with approximately US $8 billion in aggregate capital by hiring smart people from a wide range of backgrounds and letting them implement—and manage—what they invent. A robotics guru. A nationally ranked blackjack player. An operatic mezzo-soprano. And a lot of people who are just exceptionally strong in O.C. Excel, math, and finance.

The firm currently has openings in quantitative analysis, software development, information technology, computer architecture, business development, computational chemistry, accounting, finance, and trading. We're looking for creative, but pragmatic people: articulate, curious, and driven. Our working environment is intense but surprisingly casual. We provide unusual opportunities for growth. And we compensate extraordinary people extraordinarily well.

Tutors needed. Duals in October.

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

DE Shaw & Co
Caltech Presents 2004-2005 Season of Events

By TAMMY MA

Caltech is renowned for its small size, but by the varied corpus 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 all of our roots.”

For 41 years, Caltech Presents has entertained audiences and upheld Caltech’s commitment to diversity. The 2004-2005 performing arts series includes a wide range of events, 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.

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

Leroux and the Nexus of Guinean Amazonas with the Women Master Drummers of Guinea Friday, October 8, 2004

Lunaí
Irish acoustic band Saturday, October 23, 2004

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

For information about these events, call 1 (888) 248-2833, or visit www.capsteps.com. Today: The Effects of African Culture on Society; Tomorrow: Why Today’s Pop Culture is Everything Bad is Good for Us. Science Saturdays are 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:

Saturday, February 5
Mark Nittrouer: 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) 248-2833.
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AT THE RIGHT TIME.
FOR PLACE AND TIME, SEE BELOW.

Is Goldman Sachs truly the "right place"? Well, if you're eager to join a dynamic culture of motivated, well-rounded people - and to work alongside the world's best companies - the answer is yes. Is this really the "right time"? In this period of global transformation, companies, investors, governments and institutions from around the globe are seeking our unique brand of support. To be part of it, stop by our upcoming campus visit. After all, why leave your future to chance?

Firmwide Information Session
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
Gr Gray Inspires Passion for Science During His Convocation Speech

Continued from Page 3, Column 2

solar power is not an effective alternative.

Research in Gray's group is focusing on emulsifying stable's method of using light to split wa­
ter 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 pay in order to get the results.

During His Convocation Speech

Paul Jennings, Caltech's new president from 1946-1969, when Nixon's science advisor.

$100 million while DuBridge was lead to emotional situations. A question at the National Institute of Health about the ethics of sci­

entists 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 reputa­

tion 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 reassembled as the California Institute of Tech­

ology. That same year, Caltech holds its first doctoral dissertation defense and graduates its first PhD. Millikan and Noyes began recruiting a group of elite scientists to lead the research and teaching corps. Von Karman, who solved the problem of Gullwing Glynis, Linus Pauling, Earnest Swift, J. Robert Oppenheimer, and Revel were introduced to the faculty increased from 260 to 550, including the renowned Rich­

ard Feynman. The endowment increased from a little over $1 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, con­

cluded the ceremony with a sum­mary of some current research going on at Caltech.

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

The prefrosh attempt another team building exercise.

Prefrosh attempt another team building exercise.