

Photo by Bob Paz

The Dean and Associate Dean of students hosted a lunch at the Athenaeum on April 20 to honor and recognize this year's winners of the leadership awards.

Frederic W. Hinrichs, Jr. Memorial Award

Galen Loram '05 is the winner of the 2005 Hinrichs Memorial Award. This annual award in memory of Frederic W. Hinrichs, Jr., who served for more than 20 years as Dean and professor at the Institute, goes to seniors who throughout their undergraduate years have made the greatest contributions to the student body and whose qualities of character, leadership and responsibility have been outstanding.

Loram won this award for his exceptionally capable leadership and service to his fellow students during his time at Caltech. In particular, his role as Board of Control Chair and ASCIT President has made a positive difference to the campus community.

Mr. Loram will receive the Frederic W. Hinrichs, Jr. Memo-

Caltech Students Recognized for Excellence in Leadership

By MALINA CHANG

rial Award at commencement on June 10, 2005.

Mabel Beckman Prize
Haluna Gunterman '05 and Andrea Vasconcellos '05 have won the 2005 Mabel Beckman Prize. This award in memory of Mrs. Beckman's many years of commitment to Caltech's educational and research programs goes to students for their academic excellence, outstanding leadership skills, commitment to personal excellence, good character, and strong interest in the Caltech community.

Gunterman clearly displayed the qualities of outstanding leadership and service for four years at Caltech. Her contributions as the president of Lloyd House, the president of the Caltech chap-

ter of the American Institute of Chemical Engineers and the vice president for the Caltech Society of Women Engineers are particularly admirable.

Vasconcellos has also shone with outstanding leadership and service during her time at Caltech. She is the Senior Class Co-President and has served as the ASCIT Upperclass Director-at-Large. She has also worked on the Athletic Advisory Committee and the Women's Center Student Programming Board.

Ms. Gunterman and Ms. Vasconcellos will be honor of the the Mabel Beckman Prize at commencement on June 10, 2005.

Bibi Jentoft-Nilsen Memorial Award

Kim Popenorf '06 is this

year's winner of the Bibi Jentoft-Nilsen Memorial Award. This prize takes its name in memory of Bibi Jentoft-Nilsen, Caltech '89, an exceptional student leader. Her untimely death in 1990 inspired the establishment of a fund to recognize outstanding student leaders. Popenorf's dedication to enhancing the quality of student life at Caltech has clearly merited this award. Her most significant contribution to the community has been her service as this past year's IHC Chair. During her term she faced some of the toughest issues in years: the question of whether to allow freshmen in Avery and the South House renovations. She was very active in the debate over freshman in Avery, and, through her leadership, the relationships between IHC and the Avery Council have considerably improved to the benefit of all parties.

Doris Everhart Service Award

Spencer Mortensen '05 is this year's winner of the Doris Everhart Service Award. Every year, an undergraduate who has actively supported and willingly worked for organizations that enrich not only student life but also the campus and community as a whole and who has exhibited care and concern for the welfare of students on a personal basis receives this award. Spencer has tackled environmental issues as the President of Caltech's Environmental Task Force. He has brought environmental speakers to Caltech and organized the Earth Day Fair. His work with the community has

been invaluable. In addition, his leadership role with the Caltech Y, his concern and sensitivity to others and his desire to improve the quality of life on campus have made a positive difference for the Caltech community.

Deans' Cup and Campus Life and Master's Award

Deans' Cup and Campus Life and Master's Award go to undergraduates whose persistent efforts to improve the quality of undergraduate life and effective communication with members of the faculty and administration have testified to their concern for their fellow students.

Jenny Fisher '05 received the 2005 Deans' Cup. Ryan Farmer '06, Jason Quimby '05, Neil Tiwari '05 and Chuck Yee '05 received the Campus Life and Master's Award.

The Lucy Guernsey Service Award

In honor of Lucy Guernsey, the Y's Executive Director from 1989-1991, the Caltech Y ExComm annually gives the Lucy Guernsey Service Award to one or two students who have provided exceptional service to the Y or the community and exemplify a spirit of service.

Eva Murdock '06 and Sidharth Jaggi, a fifth year graduate student, have earned the Lucy Guernsey Service Award.

Scholarships Take Students Abroad

By CHRISTINE CHANG

While many graduating seniors and alumni decide to pursue further education or work in the United States, others pursue dreams of studying abroad and experiencing different cultures. Many prominent scholarships allow these dreams to become a reality. This year, seniors Wei Lien Dang and David Powers, in addition to alumni Michael Atkin and Joseph Jewell won multiple prestigious scholarships to study abroad in countries ranging from England to Japan.

Dang won one of 43 Marshall scholarships awarded each year. The Marshall Scholarship program, which began in Britain in 1953, provides \$60,000 for two years of post graduate study at any university in the United Kingdom. The Marshall committee selects for the award people who possess the capacity and desire to make a difference so that they may become ambassadors to the world.

"I believe the Marshall is a great opportunity for achieving

my professional goals and experiencing personal growth," said Dang.

Attending Cambridge University, Dang will pursue two degrees, one in nanoscience and another in technology transfer. Dang will work with Professor Bill Milne, the leader of the carbon nanotube group in Cambridge engineering. Milne served as an inspiration for Dang's current research.

"Going to Cambridge gives me the opportunity to do a one year Master's research thesis

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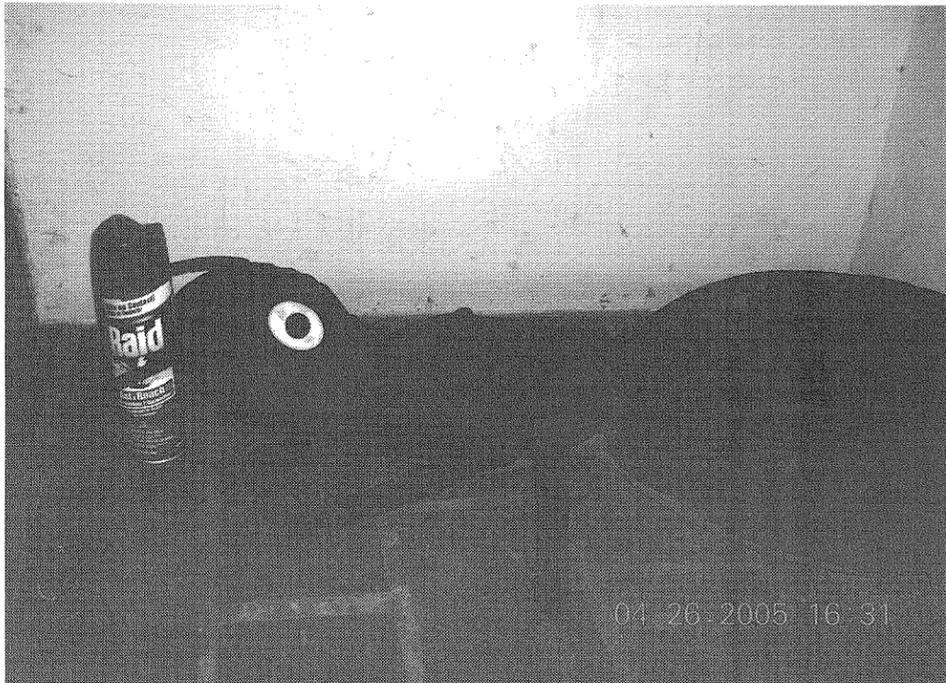
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Giant ant infestation in Dabney House

By JACOB KING



A plush conception of the offending arthropods.

Photo by Jacob King

The placid tranquility of a sunny April afternoon shattered last Monday, when a tremendous swarm of ants appeared in Dabney House. The creatures first appeared in the lounge but quickly spread. They overtook tables in the courtyard and trash cans in nearby alleys and alarmed many residents with their colossal size. Some specimens measured as long as 39 inches, or 96 cm, and weighed up to 4.5 pounds, 2 kg.

Tensions rose immediately. Joshua Goldstein, a resident, stated "ants suck and bite." Meanwhile, some Darbs were willing to accept the newcomers. Sarah Wright, another occupant, insisted "Ants and Darbs can learn to live together in harmony."

For several hours, an uneasy truce prevailed until one ant devoured a bowl of cereal belonging to Douglas Hanley. The Dabney House Secretary, Meru Sadhu, responded "Peligro! Hormigas!" Soon, reports of other incidents flooded all lines of communication. When asked for personal experiences with the ants, Thomas Quetchenbach responded "What? Ants? Oh, those. They ate all of my possessions

and my roommate."

The Housing Office sent workers to lay down a line of "ant hotels," three inch hollow discs containing poisoned food. The manufacturer claims that "the ants check in [by entering one of the slots in the disc] but they don't check out." But the hotels were only large enough for typical ant species, too small for the colossal ant invaders.

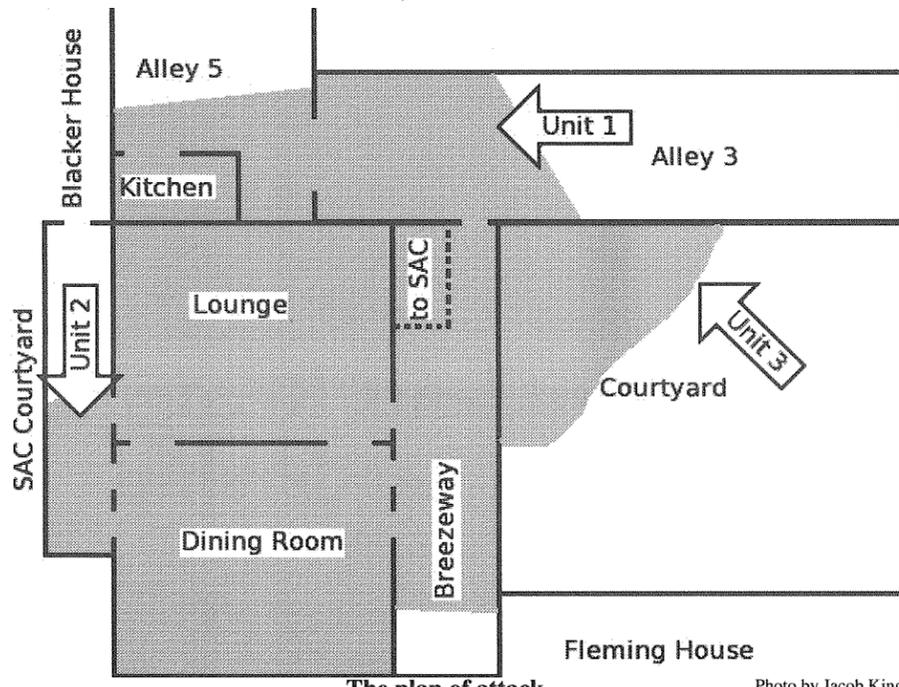
Subsequently, a number of residents formed the Dabney Liberation Brigade and acquired several machetes, sledge hammers and cans of Raid, a self-proclaimed "ant and roach killer." The

asked, "Why do they [the Brigade] want to overthrow the ants, but were content to merely stand by and watch the massacre in Rwanda?" He continued to suggest that the Brigade secretly desired to lay an oil pipe through the ant-controlled zone, ACZ.

Brigade planned the next counter-attack, which was to take the form of three independent units each toting the conventional and chemical weapons. Some Darbs expressed skepticism of the Brigade's motives, such as Leov Bronstein, who

Despite these accusations, the Brigade eventually swept into the ACZ, all three units hacking, sledging and spraying until the units converged in the breezeway. The human side reported no casualties, but, at the end of the attack, giant ant limbs and entire carcasses littered the House. Some ants reportedly scampered away, escaping into the SAC Courtyard and Blacker House to the east.

Many questions remained at the cessation of hostilities. Residents were unsure of the source of the ants, but one student who asked to remain nameless accused nearby Fleming House of harboring the ants before the invasion. The Housing Office also released a statement, which expressed the fear that "although the ants appear defeated now, any remaining ones may be lying in wait for the opportune moment to launch a guerrilla-style insurgency." However, various residents emphatically denied that the piles of dishes and food in the sinks and other similar obstacles were large enough to effectively hide more than a few three foot long insects.



The plan of attack.

Photo by Jacob King

Academic Challenges and Cultural Exploration Await Honorees

Continued from Page 1, Column 1

with a world-renowned group in my field and will allow me to gain exposure to how research is done outside the U.S., as I envision myself collaborating internationally in the future," Dang said.

In addition to the academic opportunities, Dang intends to immerse himself in the culture and travel throughout the country in order to better understand England's role in the world.

Dang began his pursuit of the Marshall after attending an information session at the end of his junior year. After applying to all the different fellowships, Dang learned to his elation that he had won the Marshall, his first choice. Before winning the Marshall, Dang had intended to attend Harvard University to earn his Ph.D., but he will now defer his admissions for two years.

"I'm really excited and a little nervous at the same time. I'm looking forward to experiencing new things and learning

about a different culture. At the same time, it will be difficult leaving behind my friends and family and a great deal of my life that is rooted here in Southern California," Dang said.

Powers, a chemistry major, will study in Japan for one year as a Fulbright Scholar. Part of a special Fulbright program, he will use his time as a student at a Japanese university to research the effects of pollution on the body. After returning from his year in Japan, Powers will enter an M.D./Ph.D. program.

"I have had an interest in working in Japan and refining my Japanese, so this fellowship was a perfect opportunity to get more Japanese experience while also improving my biochemistry background," said Powers.

Previously, Powers had participated in the Caltech Japan Internship Program, so he also intends to visit his old host family and coworkers, as well as

his relatives. He also eagerly anticipates seeing the change of seasons in Japan and interacting with more people from various backgrounds.

For students intending to apply for fellowships, Powers recommends starting early on the application and participating in extracurricular activities. Additionally, he advises that applicants research their proposals in order to find good projects.

"I thought that the more specific information that I had for my project idea that I could cite, the better my proposal would be, so I looked at the literature and web sites of Japanese colleges and research institutions before writing my proposal," said Powers.

Along with Powers, Michael Atkins, who graduated in 1999 with a degree in Applied Physics, won a Fulbright grant to study at Chalmers University in Sweden. There, he will enroll in the Master's Program in

Complex Adaptive Systems.

"Programs in complex systems are currently few and far between, so the one offered at Chalmers seemed unique. It combines research and coursework, and all the classes are taught in English," said Atkins.

After returning, he plans to enter a Ph.D. program.

While this is Atkins' first sojourn in Scandinavia, he has traveled to many other places throughout the world. He participated in the first year of the Caltech exchange with Cambridge University. Furthermore, from August 1999 to August 2000, he studied how people from various cultures in South America and Africa experience time.

While in Sweden, he will stay in Gothenburg.

As do many Caltech students, Atkins admits that it is difficult to balance school and work with other aspects of life.

"Actually, I don't think that

I'm very good at balance. I tend to do one thing intensely and then move on to something completely different. I supposed that the long-term balance comes from having a wide variety of experiences," said Atkins.

In addition to Atkins, Jewell, a Caltech alumni who graduated in 2004, was named one of 32 Rhodes Scholars. The oldest international study awards given to American students, the Rhodes Scholarships grant \$35,000 for two years of study at Oxford University in the United Kingdom. Rhodes Scholars must display high academic achievement, integrity of character, a spirit of unselfishness, respect for others, potential for leadership, and physical vigor. With his Rhodes Scholarship, Jewell will pursue a Master of Science by research in Engineering Science. He will research the fluid mechanics of hypersonic inlets for scramjets and ramjets.

"I hope to gain a new perspective, to have my horizons broadened, to use a cliché. I hope to meet interesting people in a wide variety of fields, and I hope to further develop myself as a researcher and engineer," said Jewell.

Jewell had previously applied for the Rhodes but was not granted an interview. However, still wishing to explore England and Europe and interested in winning the scholarship, he applied again.

While in England, he intends to play in the Oxford orchestra, travel around Europe and soak in as much history as possible.

Prior to winning the Rhodes, Jewell attended graduate school at the University of Michigan. He plans to return to Caltech for his Ph.D.

For applicants of the Rhodes, he advises to continue to apply even after being rejected the first time.

"Beyond that, pursue the things that you're really interested in, both in science and outside of science," said Jewell.

He says that doing the activities he loved helped him to achieve a balance of life outside of school with work.

"I didn't finish with a perfect GPA or anything, but I definitely don't regret the time I spent pursuing non-academic or non-engineering things while at Caltech. If you don't have something fulfilling to take a break with, I think you'll go crazy at Caltech," said Jewell.

The California Tech

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VOLUME CVI, NUMBER 25

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The Tech is published weekly except during vacation and examination periods by the Associated Students of the California Institute of Technology, Inc. The opinions expressed herein are strictly those of the authors and advertisers.

Letters and submissions are welcome; e-mail submissions to tech@tech.caltech.edu as plain-text attachments, including the author's name, by Friday of the week before publication. Sorry the Tech does not accept anonymous contributions. The editors reserve the right to edit and abridge all submissions for any reason. All written work remains property of its author.

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An Open Letter to Margo Marshak

By DAVID L. STAFFORD

This is an open letter to Margo Marshak, the VP of student affairs at the California Institute of Technology. Caltech has a long history of independent student life. Caltech was the first institution to have an organization like ASCIT. Traditionally, the students and the administration have tried to stay out of each other's way. At times, administrative involvement has helped to prevent disasters. Sometimes the administration's involvement in a particular crisis has saved someone's career or life. I was grateful for this when I was a student.

The recent censorship of House murals by the Caltech administration is inconsistent with the administration that I knew and admired. Your staff deliberately destroyed artwork that they considered offensive. The first incidents happened before Prefrosh Weekend. Students perceived this as a pointless attempt to hide Caltech culture from prospective students. A week later, your staff tried to destroy more artwork early in the morning when they thought no students would discover them. Instead, several students caught them and sent them on their way.

These actions breach long-standing agreements between

the students and the administration. Several years ago, both parties agreed that students had the right to paint the inside of the Houses but not the outside. In 2002, they agreed that the Houses would know 48 hours before any painting. Your staff has violated this agreement numerous times, and every time you or your employees have apologized and said it will never happen again. They violated the rule again in these latest incidents when your employees painted over artwork they thought was offensive without notice to the Houses.

Even though Tim Chang acted without your authorization and you did not know about this incident until it was too late, you are the Vice President for Student Affairs and have ultimate responsibility for the actions of your staff. Your staff has repeatedly broken the 48 hour painting notification rule, the 24 hour notice on non-emergency entry rule and the student disciplinary guidelines multiple times. Mutual respect between the students and the Institute depends on your staff's following its own rules.

More importantly, these events show that the administration is trying to censor students. How

can we look at China's censorship of political dissidents as naive while we accept censorship of "profanity" at home? Censorship first comes in the guise of protection, as political ideas and profanity can hurt people, but it never ends there. Even if you only wish compliance with ordinary decency, others will find ways to abuse this precedent for their own benefit. Allowing censorship on the Caltech campus disgraces centuries of work by scholars who have struggled for free thought.

Caltech students motivate and think for themselves. They value their freedoms highly, including the right to decorate their walls and run their lives as they want. Every university to which I applied accepted me, and, despite receiving telephone calls from heads of departments at UC Berkeley and Stanford and admission to a special program at Carnegie Mellon, I chose Caltech because of its vibrant student body. Caltech students are the kind of people who change the world, and if you do not give them the intellectual freedom they deserve, they will go elsewhere. Caltech advertises that it is the world's best playground for math, science and engineering. Yet, it cannot be

a playground if you do not let people play freely.

Sometimes art offends other members of the Houses, which is why the Houses have a mechanism to resolve such complaints. That mechanism grows out of our mutual respect for each other as well as for each other's ideas. When I lived in Dabney House, several students asked if they could paint over a mural that offended them. The House agreed without hesitation. Another student asked if he could paint over a particularly depressing poem in his room. The poem commemorated a deceased member, so the student moved to a different room.

That we do not thoughtlessly paint over the murals represents a very deep respect for other people. You will find poems, drawings, profanities and pretty much anything else we can make with paint or markers. But you will nowhere find anything that someone has deliberately overwritten without communal agreement. The unconditional respect for other people's ideas is a fundamental axiom of scholarship, and it saddens me that you do not share this respect.

By the time you get this letter most of the damage will probably have occurred. You ordered the students to clean up the profanity lest the painters do a much worse job. I can only hope that you immediately decide to protect your students' rights to unconditional self-expression. The deceitful nature of your and your staff's actions have eroded my trust in the entire Institute. I hope that in the future you can hold yourself and your staff to a higher level of integrity. As much as I would like to help secure Caltech's future, my ethics prevent me from donating to organizations that endorse censorship.

MINT

CALTECH QUIZ BOWL INTRAMURALS

Did you play Quiz Bowl in high school, but never had time for it in college? Are you looking for an opportunity to play again? Maybe you've never played before and would like to try.

This is your chance.

On Saturday, May 14, at 10:00 AM, Caltech Quiz Bowl will be hosting an intramural tournament at Baxter Hall open to the entire campus. All members of the Caltech community, including undergrads, graduate students, faculty, and staff, are welcome and encouraged to participate. We will be using questions specifically written for intramural tournaments, so the difficulty should be at an appropriate level for all participants.

Teams will consist of up to four players who can be anyone from the Caltech community. In other words, it is fine if Dean Revel, David Baltimore, or Kip Thorne is part of your team.

Once you have found your team members, you can register at the following website: <http://quizbowl.caltech.edu>, or you can e-mail team lists to me at y Zhang@caltech.edu. The deadline to register is 5:00 PM on Friday, May 10.

If you don't know anyone else who wants to play, but you still want to, let us know as soon as possible and we will set you up with some teammates. Feel free to send us any questions you may have regarding this tournament. It should be a fun time for everyone who participates.

Thanks,

Yan Zhang
Caltech Quiz Bowl
y Zhang@caltech.edu

Counter-stack Counter-stacking

By JEFFREY PHILLIPS

The end of third term is fast approaching, and I am looking forward to running amok on ditch day. Seniors have carefully planned their stacks and are gearing up for the all nighters to make them come together. And they will need to work fast, because Ditch Day is tomorrow. The jackpot at the end of the stack, the food and the commemorative trinkets, is great, but, like Trick-or-Treats on Halloween, the little rewards at the end of the stack have lost their original meaning. This year, I am earning my bribe.

Originally, underclassmen would engineer pranks of revenge against seniors taking Ditch Day off from campus. Often, they stacked furniture in the middle of a Senior's room. Not to be outdone, Seniors started sealing, or stacking, their own rooms against attack, and underclassmen broke in and counter-stacked. Hence, Seniors began bribing underclassmen with food, drink and various prizes in hopes that their rooms would remain relatively intact.

In recent years, we underclassmen have fallen lax on counter-stacking. We accept the stacks as they come and run around doing the seniors' bidding, giving little

thought to the mischief that lies at the core of the Ditch Day tradition. If your stack disappoints you this year, if you have extra time, if you have any extra willpower whatsoever, put some thought into a good counter-stack. Prepare some ideas ahead of time. Put in a small fraction of the effort it takes to build a full senior stack and, as in Grand Theft Auto, +Respect will be yours.

Counter-stacking has another important role. A good number of seniors each year decide to skip stacking entirely and work on other projects of laughable importance. Spitting in tradition's eye for the sake of senior theses, career searches and especially social lives warrants harsh retribution at the hands of underclassmen. Brick walls in front of these retracted Techers' doors when they wake up in the morning should chastise their apostasy.

One stack and counter-stack fill Ditch Day nicely, but we have every day after Ditch Day to counter-stack every indolent senior. The stacks of old were essentially room-centered pranks. Penny stacking, sticking pennies in the crack between a door and its jam so as to paralyze the bolt,

is quick yet effective. Screwing a 2x4 into a door and bracing it across the doorway works well too, as I let one stilted summer student discover after my freshman year. You may choose from myriad other devious methods, and the creative possibilities for stress relief are boundless, so get off your asses and do it. It beats homework.

To Our Readers: Of Skeptics and Space Cases

By ADAM CRAIG

Bright and early at 1350 this afternoon, I hauled myself up from my slumbers, drowsily wedged my feet into my least comfortable pair of walking shoes, wrapped myself in my frayed denim jacket and warped, spotty felt derby against the sun's white-hot glare, and sauntered out to the door in search of a hall or auditorium with a name beginning with the letter "B," in search of Bill Nye and his lecture on the world's ubiquitous microscopic fauna. Halfway between Beckman and Baxter, I crossed paths with a middle-aged woman in a Spartan, brown power suit, a silver pompadour perched professionally atop her crown. She knew too was searching for the lecture. She knew it to be in Baxter lecture hall but knew not how to get there. As we walked in

the shadow of the mighty Baxter, bulwark of the right brain functions, she asked whether I was a member of the Skeptics' Society, to which I replied that I had only heard of it when I first read the lecture announcement. In reply, she pulled from her tote bag a Skeptic Society-affiliated news magazine that could easily have passed for a copy of the New Times from which someone had removed all the pages with advertisements for call girls, halving its page count. "I bet you know what this article is about," she said, opening it to a page with the title, "Conflict of the Civilizations." Rather than selecting a specific chapter from my memories of high school history classes, I hazarded that it was about "some civilizations that are conflicting with one another" and let her provide more detail. The author of this particular "Conflict of the Civilizations" had chosen to write about "the recent struggle between faith-based and reality-based society," as my practically outfitted yet zealous traveling companion explained it. As we climbed the tortuous stairway to the auditorium, I questioned whether it was only recently that these two facets of

human thought had clashed. She answered it was not, "but it's the first time we've had one [of the religious far right] as the president" as visions of Harding and Reagan danced in my head. Settling into my seat toward the back of the auditorium, I watched the incoming tide of wrinkles, gray hair and a rainbow of shades of beige suits wash up upon the red upholstered shores of open seating. When the froth of clamouring dentures had subsided, Dr. Michael Shermer, Director of the Skeptic's Society, welcomed his brethren and sistern and rigaled them with news of the scientific lecturers and stage magicians who would be performing at the first annual Skeptics' Convention in five years. After a tangent that lead to much guffawing over the inability of the employees of the Psychic Friends Network to predict their own company's bankruptcy, he introduced the guest speaker. The absence of cheesy puns and cartoonish sound effects soon alerted me that this speaker was not Bill Nye at all. Further listening indicated that he was Dr. Arthur I. Miller, author of *Empire of the Stars*. In his lecture, he summarized the tale of his book's



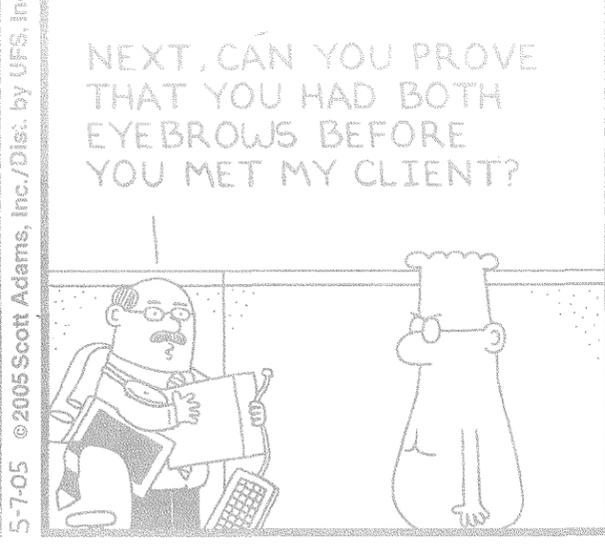
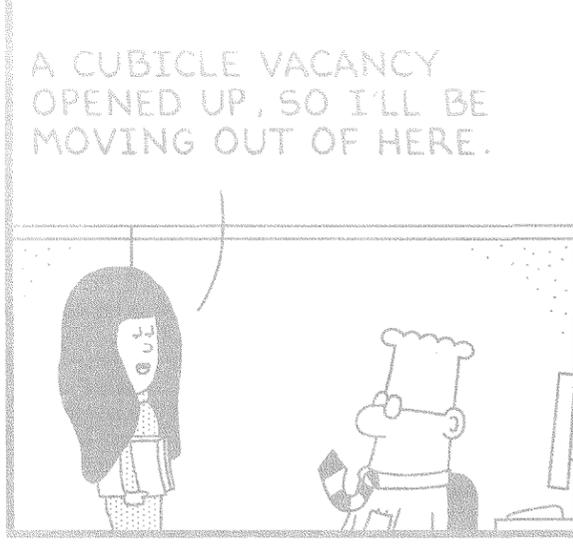
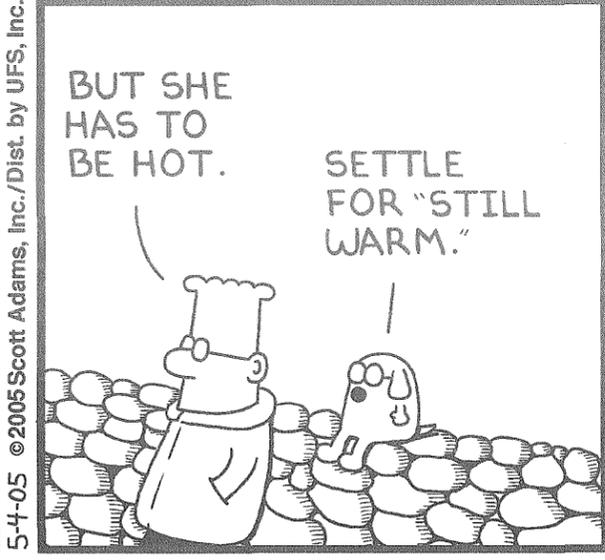
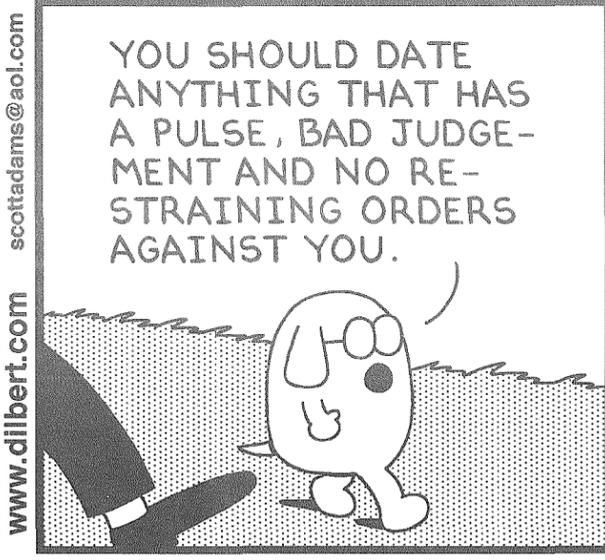
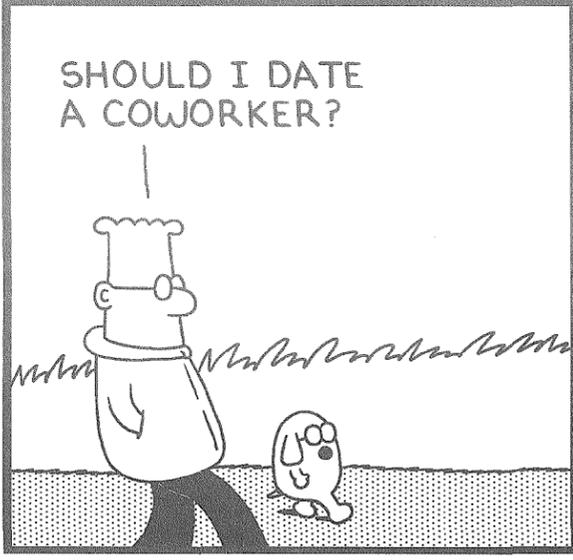
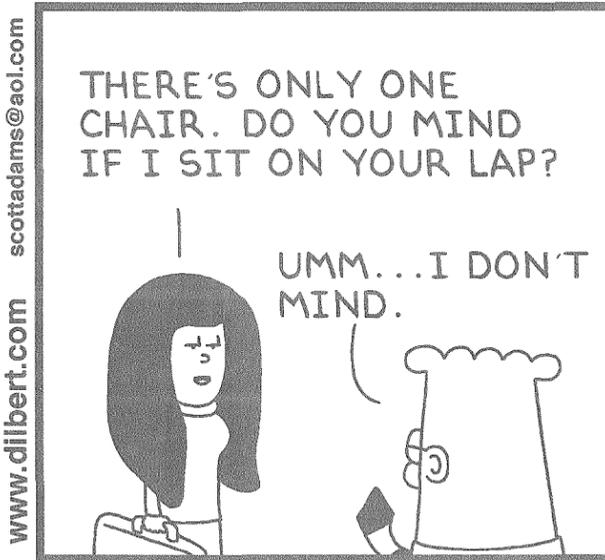
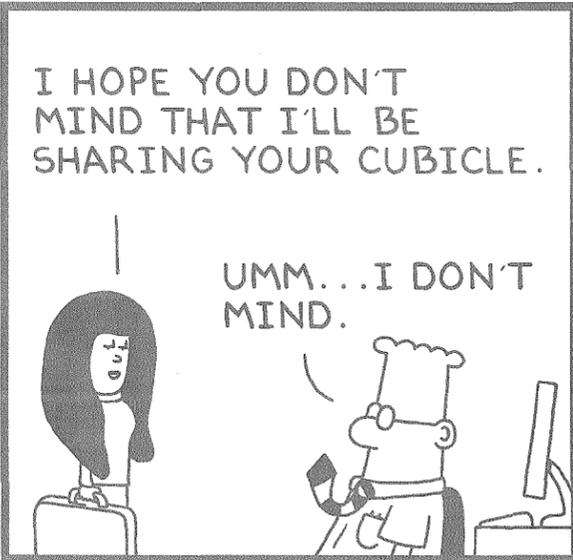
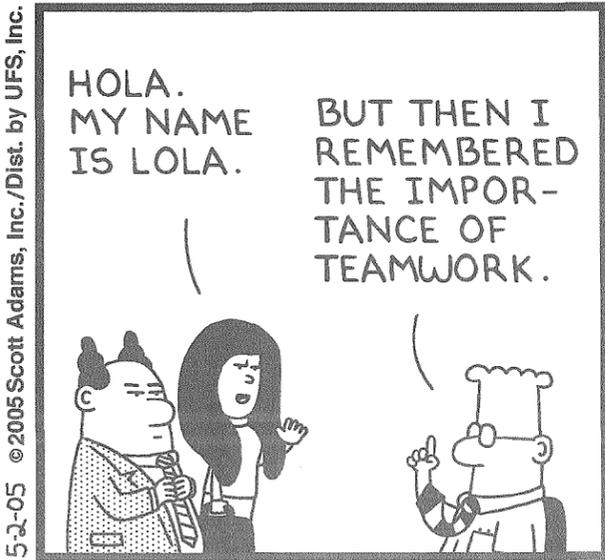
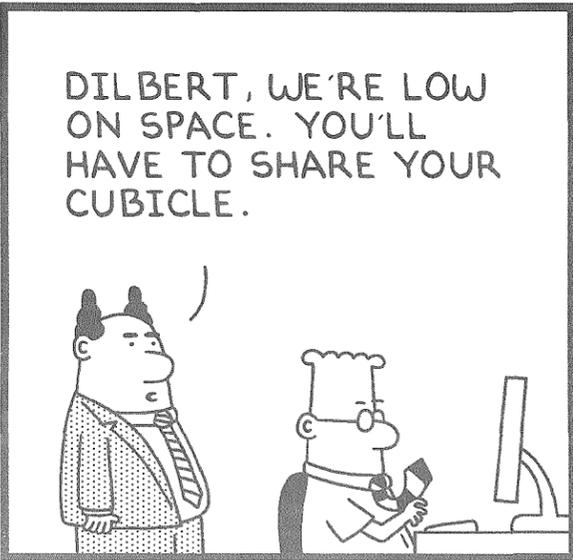
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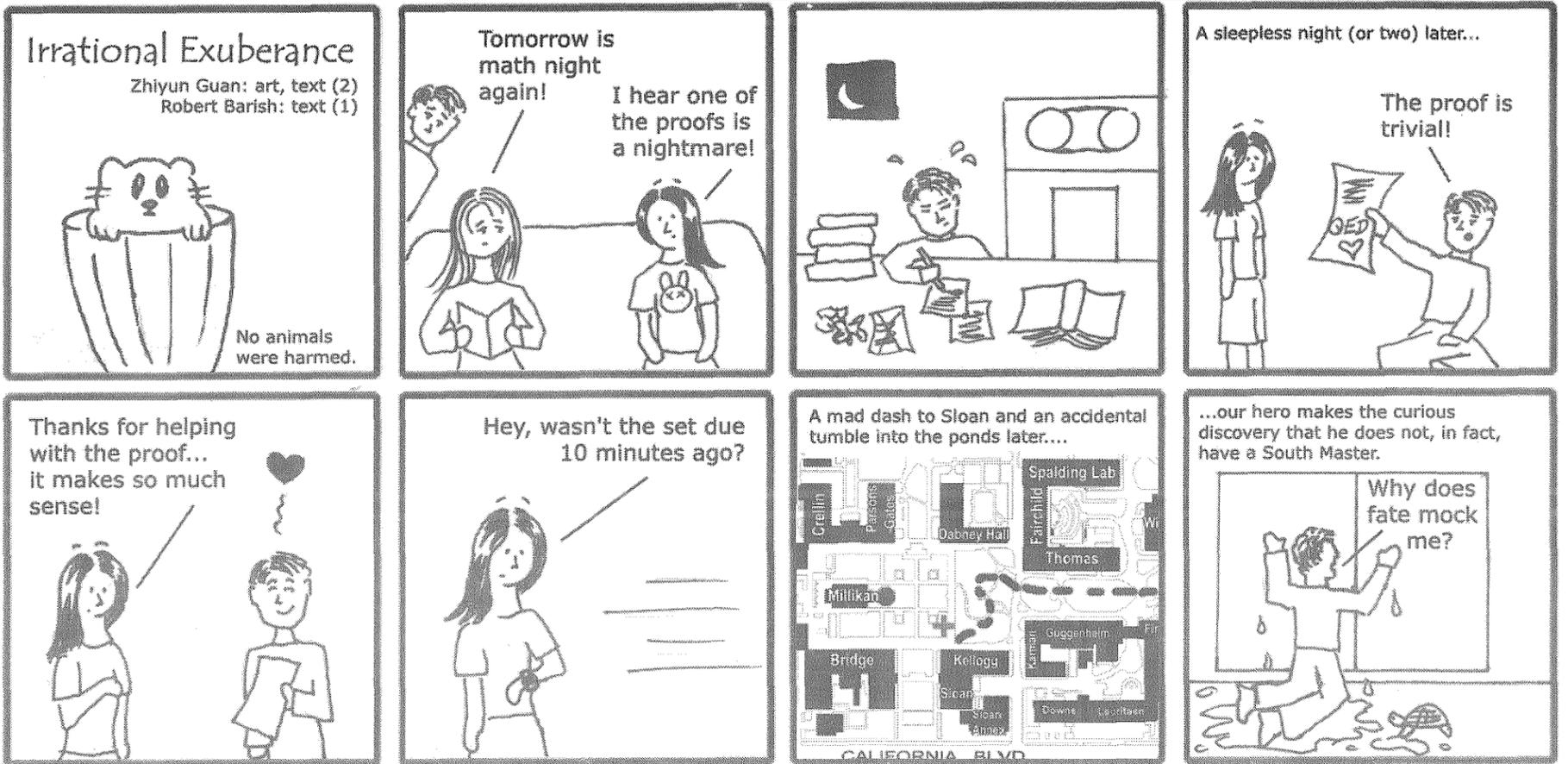
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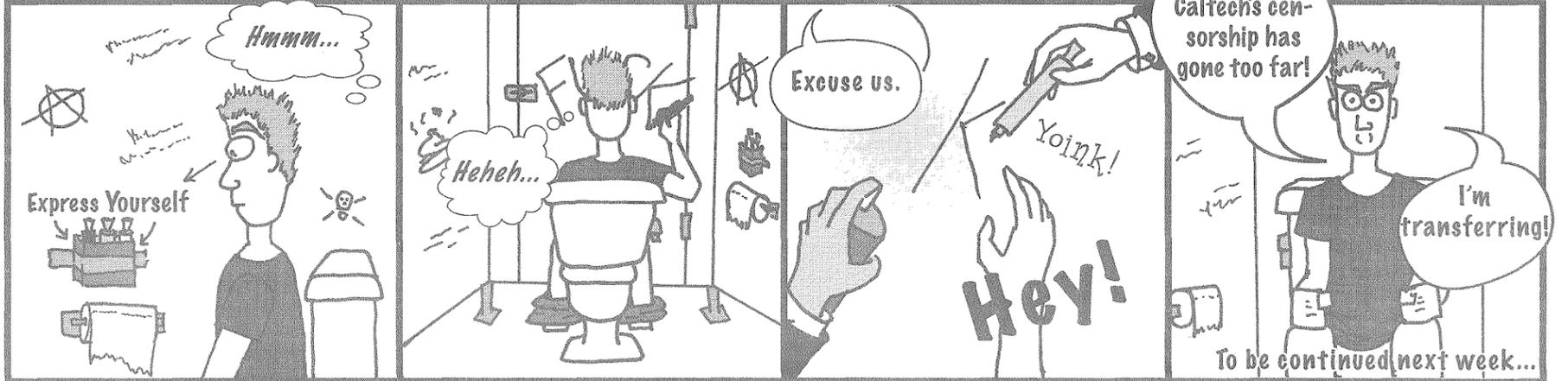


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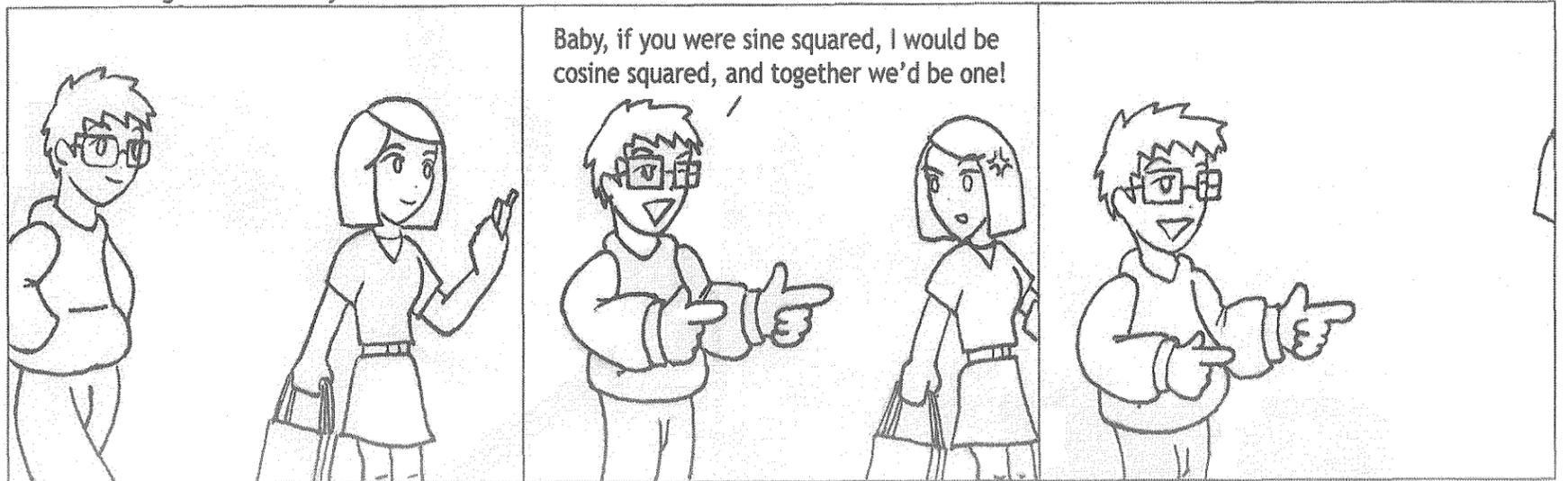


Getting out of the Nutshell: Case 1



Story by: Issac Garcia-Munoz
Art by: Chelsea Sharon

G.L.O.M. - Greg's Life of Misery



By Ning Bao, Nathan Lau, and Angela Shih



Caltech welcomes

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a cappella

Friday, May 13 @ 8:00pm
in Ramo Auditorium

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HOOKSLIDE is a vocal band based out of San Francisco, CA. They perform a high energy mix of mind blowing vocal percussion, booming bass and screaming four-part harmony guaranteed to knock you out!

Come hear
Out of Context
rock out, too.

Funded generously through the Moore-Hufstедler Fund

Caltech Physicist Kip Thorne Wins 2005 Common Wealth Award

By ROBERT TINDOL

Kip Thorne, a physicist who is famed for his work on the cosmic consequences of relativity, is one of five winners of the 2005 Common Wealth Award.

This year's other winners are former secretary of state Colin Powell, Pulitzer Prize-winning playwright David Mamet, World Wide Web inventor Tim Berners-Lee, and novelist Amy Tan.

Thorne, who has been a faculty member at the California Institute of Technology since 1966, is currently the Feynman Professor of Theoretical Physics. The Common Wealth Trust cited him for his longtime efforts toward "opening new windows on the universe for scientists and lay audiences alike."

Thorne is a cofounder of and intellectual force in the Laser Interferometer Gravitational-Wave Observatory (LIGO), an NSF-

funded project to detect gravitational waves and use them to probe the "dark side" of the universe. Gravitational waves were predicted almost 90 years ago by Einstein, but have not yet been detected. They are theorized to come from exotic astrophysical phenomena such as colliding black holes and neutron stars being torn apart by black holes.

LIGO is now a collaboration of 500 scientists in eight nations, headquartered at Caltech and directed by Caltech's Barry Barish and Stan Whitcomb.

Thorne earned his bachelor's degree from Caltech in 1962 and his doctorate in physics from Princeton University in 1965. He returned to his alma mater the following year and quickly rose through the faculty ranks, becoming a full professor of theoretical physics in 1970.

He was elected to the American Academy of Arts and Sciences in 1972 and the National Academy of Sciences in 1973. He has been awarded the Lilienfeld Prize of the American Physical Society (1996), the Karl Schwarzschild Medal of the German Astronomical Society (1996), the American Institute of Physics Science Writing Award in Physics and Astronomy (1969 and 1994), and the Phi Beta Kappa Science Writing Award (1994).

He has been a Woodrow Wilson Fellow, a Danforth Foundation Fellow, a Fulbright Lecturer, and a Guggenheim Fellow, and has served on the International Committee on General Relativity and Gravitation, the Committee on US-USSR Cooperation in Physics, and the National Academy of Sciences' Space Science Board.

The Common Wealth Awards

of Distinguished Service were first presented in 1979 by the Common Wealth Trust, created under the will of the late Ralph Hayes, an influential business executive and philanthropist. Hayes conceived the awards to reward and encourage the best of human performance worldwide.

Now in their 26th year, the awards have conferred more than \$3.5 million in prize money on 153 honorees of international renown. Past award winners include archbishop and human rights leader Desmond Tutu, the late actor Christopher Reeve, primatologist Jane Goodall, former CBS anchorman Walter Cronkite, and Nobel Prize-winning novelist Toni Morrison. In addition to Tutu, Morrison, and former secretary of state Henry Kissinger, eight other Nobel laureates have also won the award.

colleague, Smits Professor of Geophysics Hiroo Kanamori; Professor James Rice of Harvard University; and Caltech grad student Kaiwen Xia, prepared polymer plates to mimic the effects of major strike-slip faults. These are faults in which two plates are rammed against each other by forces coming in at an angle, and which then spontaneously snap (or slide) to move sideways.

Because such a breaking of lab materials is similar on a smaller scale to the slipping of tectonic plates, the measurement of the waves in the polymer materials provides a good indication of what happens in earthquakes.

The team fixed the plates so that force was applied to them at an acute angle relative to the "fault" between them. The researchers then set off a small plasma explosion with a wire running to the center of the two polymer plates (the "hypocenter"), which caused the two plates to quickly slide apart, just as two tectonic plates would slide apart during an earthquake.

The clear polymer plates were made of two different materials especially selected so that their stress fringes could be photographed. In other words, the waves and rupture fronts that propagate through the system due to this "laboratory earthquake event" showed up as clearly visible waves on the photographic plates.

What's more, if the rupture fronts are super-shear, i.e., faster than the shear speed in the plates, they produce a shock-wave pattern that looks something like the Mach cone of a jet fighter breaking the sound barrier.

"Previously, it was generally thought that, if there is a velocity contrast, the rupture preferentially goes toward the direction of the slip in the low-velocity medium," explains Kanamori. In other words, if the lower-velocity medium is the plate shifting to the west, then the preferred direction of rupture would typically be to the west.

"What we see, when the force is small and the angle is small, is that we simultaneously generate ruptures to the west and to the east, and that the rupture fronts in both sides go with sub-shear speed," Rosakis explains. "But as the pressure increases substantially, the westward direction stays the same, but the other, eastward direction, becomes super-shear. This super-shear rupture speed is very close to the p-wave speed of the slower of the two materials."

To complicate matters even further, the results show that, when the experiment is done at forces below those required for super-shear, the directionality of the rupture is unpredictable. Both waves are at sub-shear speed, but waves in either direction can be devastating.

This, in effect, explains why the Parkfield earthquake last year ruptured in the direction opposite to that of past events. The experiment also strongly suggests that, if the earthquake had been sufficiently large, the super-shear waves would have traveled northwest, even though the preferred direction was southeast.

But the question remains whether super-shear is necessarily a bad thing, Kanamori says. "It's scientifically an interesting result, but I can't say what the exact implications are. It's at least important to be aware of these things."

"But it could also mean that earthquake ruptures are less predictable than ever," he adds.

Caltech Chews up the Competition in Dining Services Contest

By ROBERT TINDOL

Students at the California Institute of Technology may be interested primarily in food for the mind, but the results of the 2005 Loyal E. Horton Dining Awards contest suggest that they're doing okay in the food-for-the-body category as well.

Winning the gold medals in the standard menu catering and multiple concepts/outlets categories this year was Caltech Dining Services, beating out Harvard University and MIT in the former category and Miami University and the University of Connecticut in the latter. Caltech also took the silver medal in the single stand-alone concept/outlet category.

According to event organizers, 182 American universities entered this year's contest of campus comestibles. For Caltech's Tom Mannion, assistant vice president for student affairs for campus life, the win over MIT alone is sufficient for keeping a smile on the

face of the dining staff for the next year.

"We're always happy to beat the Other Institute of Technology in anything," says Mannion, whose responsibilities include the campus food services. "But also beating Harvard sends out the message that maybe you're just better off eating campus food in Pasadena than in Cambridge!"

Andr  Malli , director of dining services and executive chef at Caltech, notes that this is the third straight year that Caltech Dining Services has won at least one gold medal.

"This is quite an accomplishment for our organization," says Malli . "It's not just about good food, but the entire spectrum of services."

A complete listing of winners, judging criteria, and other information is available at

<http://www.nacufs.org/awards/hortondining/awards.html>.

Seismic experiments provide new clues to earthquake wave directionality and growth speed

By ROBERT TINDOL

In recent years, seismologists thought they were getting a handle on how an earthquake tends to rupture in a preferred direction along big strike-slip faults like the San Andreas. This is important because the direction of rupture has a profound influence on the distribution of ground shaking. But a new study could undermine their confidence a bit.

Reporting in the April 29 issue of the journal *Science*, researchers from the California Institute of Technology and Harvard University discuss new controlled laboratory experiments using dissimilar polymer plates to mimic Earth's crusts. The re-

sults show that the direction of rupture that controls the pattern of destruction is less predictable than recently thought.

The results explain puzzling results from last year's Parkfield earthquake, in which a north-westward rupture occurred. A southeastward rupture had been predicted on the basis of the two past earthquakes in the area and on numerical simulations. Also, during the recent large earthquakes in Turkey, some ruptures have occurred in the direction opposite to what happened in the past and are thought to involve unusually high speeds along that direction.

The phenomenon has to do with the basic ways rupture fronts (generating seismic waves) are propagated along a boundary between two materials with different wave speeds—an area of research that is yielding interesting and important results in the engineering laboratory.

The reason this is important is that geophysicists, knowing the wave speeds of the materials in different tectonic plates and the stresses acting on them, could someday have an improved ability to predict which areas along a major fault might be more powerfully hit. In effect, a better fundamental knowledge of the workings of Earth's plates could lead to a better ability to prepare for major earthquakes.

In the experiment, Caltech's von K rnan Professor of Aeronautics and Mechanical Engineering Ares Rosakis (the director of the Graduate Aeronautical Laboratories); his cross-campus

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Caltech Beats MIT in Internet Chess Match

By NIKITA PANASENKO

On April 24, 2005, the Caltech Chess Team defeated MIT in an 8-board chess match played on the Internet Chess Club. The match was the second of two between Caltech and MIT.

In 2003, Caltech beat MIT 5-3 in a match of the same format of this year's contest.

In Sunday's match, MIT jumped off to an early lead by scoring two quick wins. But Caltech kept the pressure on in the six remaining games, earning four wins and two draws, and winning the match 5-3 once again.

The Caltech team consisted of players Patrick Hummel '06, Eugene Yanayt '06, Karl Yee (staff), Howard Liu '06, Joshua Gutman '06, Edward Perepelitsky '07, Phillip Perepelitsky '07, and Zeb Rocklin '08. The MIT team they defeated is one of the toughest college teams in the country.

The Caltech Chess Team is composed of members of the Caltech Chess Club.

Further information, including games from the Caltech-MIT match, can be found on

<http://www.its.caltech.edu/~citchess/>



Caltech's Joshua Gutman contemplates his move in a recent Internet chess match vs. MIT.

This is Article is Gibberish Because You Didn't Write for the Tech

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