



## TACIT's Shakespeare Play Roaring Success

By JENNY IOFINOVA

**TITLE: MACBETH A ROARING SUCCESS**

A riddle: what do you get when you take "Me want woman! Me need power! Me want revenge! Arr!" and translate it into Elizabethan English?

Hint: It has to do with Scotland and the same sentiments take over two hours to express.

Since 1998, TACIT has been churning out one production of a Shakespearean play each year. This year, the lucky winner is *Macbeth*. And in this production it seems that every male character has injected several cubic centimeters of Testosterone right beforehand.

*Macbeth* is the story of a faithful Scottish Thane (Allan Corcoran '91) who turns traitorous when met with three witches who promise him the crown. Encouraged by his wife (Suzana Sburian '04), he murders King Duncan (Nicholas Rupprecht '05) while the latter is visiting his castle, then hires assassins to murder his friend Banquo (Frederic Farina, MS'91), who also saw the witches and to whom was promised that his children shall be kings. After Banquo's death, his ghost appears at the dinner Macbeth was giving for other thanes, unseen by all but Macbeth.

From this point we can mark the descent of Macbeth into the realm of insanity, or maybe depression. He visits the witches again and learns to beware Macduff (Adam Burgasser, Ph.D. '02), who has fled to England. Therefore, Macbeth has Macduff's wife, children and servants slain. (If he had no reason to beware Macduff before, he sure does now.)

Macbeth is also promised that he cannot be harmed by any of woman born and that he has nothing to fear "til Burnam Wood come to [Macbeth's castle] Dunsinane," so he feels safe in his

castle. Meanwhile, Macduff and Duncan's son Malcolm (David Griswald '04) are stirring up an army of ten thousand men to raid Macbeth's castle and free Scotland from his tyranny.

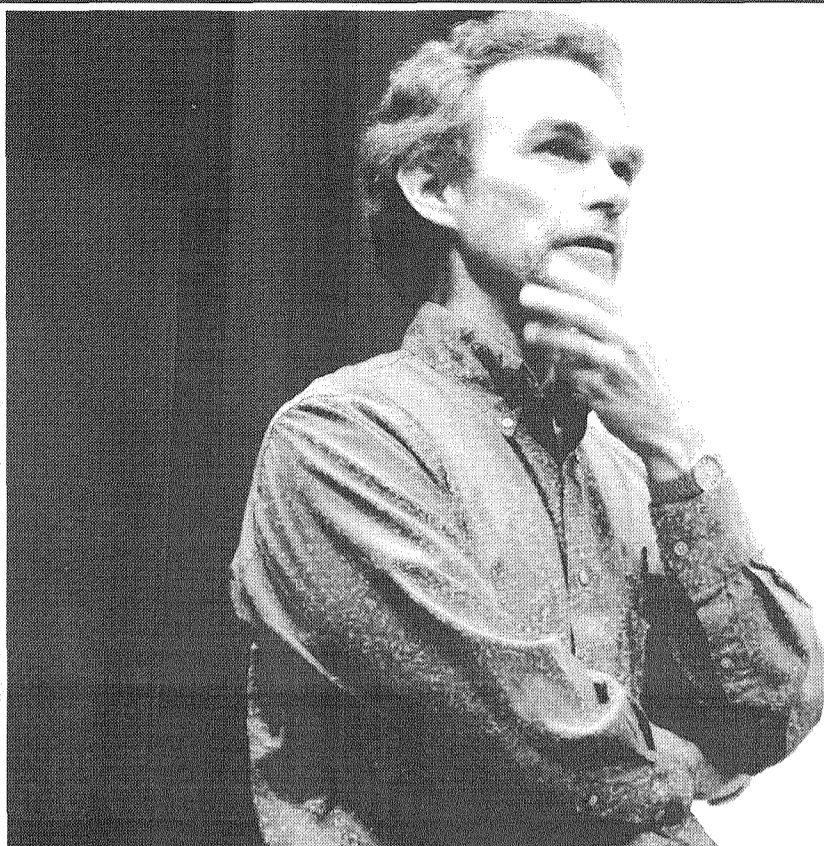
As Macbeth prepares for the siege, we see Lady Macbeth lose her mind and then hear of her killing herself. Macbeth's forces are vanquished and he himself perishes in a final sword fight with Macduff, who was "from his mother's womb untimely ripped."

The story of Macbeth is commonly told as the story of an unsuccessful struggle of a man with his fate. When the Witches foretell Macbeth's future as King of Scotland, we see Macbeth struggle with his decision whether or not to murder Duncan; the Witches know he's going to and tell him as much, long before he does. Likewise, we know that the second set of predictions will come true, though we're not sure how. This conflict between what is predetermined and free will is written deep into the play.

The *Macbeth* presented on the stage in Ramo, however, has another element: the conflict between a man's brain and his sex drive. This conflict is set against a backdrop of Macbeth's manly opponents experiencing manly grief at the loss of their families and friends by shouting manly shouts.

As in any other production, Lady Macbeth is an ambitious schemer. In this production, however, she uses her body as the tool of choice to get Macbeth into the proper mindset for the murder. There is far more kissing between Macbeth and his wife in their first scene together than in all the other TACIT plays and other *Macbeth* productions I have seen, combined. Even King Duncan is somewhat of a dirty old man, hit-

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D. Korta/The California Tech

Amgen Executive Vice President of Operations Dr. Dennis Fenton pauses to recall an event in Amgen's rise to greatness in the biotechnology sector.

## Biotech Leader Discusses Science And Entrepreneurship in Action

By WILLIAM FONG

On Thursday afternoon at the Beckman Institute Auditorium, the Caltech Biotechnology Club welcomed Dr. Dennis Fenton, Amgen's Executive Vice President of Operations and Corporate Compliance Officer, as a guest lecturer in its speaker series. After receiving his bachelor's degree in biology from Manhattan College and his doctoral degree in microbiology from Rutgers University, Fenton worked at Pfizer as a research scientist. However, in 1982, Fenton left Pfizer to join a start-up in Thousand Oaks called Applied Molecular Genetics, which would later be abbreviated Amgen.

In his lecture titled "Amgen: Charting the Course in Biotech-

nology," Fenton provided a history of Amgen from its infancy to the prominent position it holds today in the biotechnology sector. Founded in 1980 in Thousand Oaks by George Rathmann, Amgen has built its research around the guiding principle of "dramatically improving people's lives" with advances in cellular and molecular biology.

Amgen's success in this mission is witnessed in the release of five major products spanning two decades. In 1989, Amgen released its first product called Epoprostenol that stimulates the production

of red blood cells to treat anemia resulting from kidney failure. In 1991, Neupogen was released as a stimulant of white blood cell production to treat infection in cancer patients. Two products, Aranesp and Neulasta, released in 2002 were similar in function to Epoprostenol and Neupogen, respectively, but did not need to be administered as often as their predecessors.

2002 also saw Amgen acquire Immunex as well as the re-release of Enbrel, a product originally developed by Immunex. By binding

*Continued on Page 2, Column 4*

## Career Conference To Help Clarify Job Goal

By CHRISTINE CHANG

Caught up in studies and problem sets, students often forget why they are enduring the workload and stresses of college. They do not see the bigger picture of finding a job and constructing a career until senior year. Hoping to alleviate some of this procrastination, the Career Development Center is holding an Undergraduate Career Conference on February 28 at the Athenaeum to aid students in learning the basics for career planning and help them clarify their own career goals.

"It is all about career exploration, who am I, what can I do, how do I get there," said Career Development Center Director Jerry Houser.

A parallel to a similar conference held for PhD and post-doc students, as well as conferences held at other schools, the upcoming Undergraduate Career Conference, funded by the Moore-Hufstetler fund, will feature workshops, seminars and lunch with alumni from various fields of study. Seminars, presented by Caltech Career counselors, will

focus on goal-setting, language, concepts and networking.

"We want to determine a person's unique style and personality so they will end up in unique careers," said Houser.

Houser emphasizes the importance of learning one's own skills and abilities before making a career decision. Therefore, the conference will focus on self-analysis and reflection, as well as pushing students to get a head start on finding a career.

As well as a person's skills, however, Houser also stresses that a person must follow his or her own passions, especially when deciding on a career.

"Your career will be both occupation for pay and occupation for life," Houser said. "It's almost like a marriage. The relationship has to have enough compatibility."

From the conference, Houser especially hopes that students will gain a firm grasp of the basics of networking. Throughout the seminars and lunch, students will be exposed to the basics of

*Continued on Page 2, Column 1*



L. Tran/The California Tech

Jane's Health Survey has already received 600 responses, but Health Educator is still campaigning strongly. See inside for more details.

# Kuiper Belt Planetoid Discovery Increases Hopes for Larger Find

By ROBERT TINDOL

PASADENA, Calif.-Planetary scientists at the California Institute of Technology and Yale University on Tuesday night discovered a new planetoid in the outer fringes of the solar system.

The planetoid, currently known only as 2004 DW, could be even larger than Quaoar--the current record holder in the area known as the Kuiper Belt--and is some 4.4 billion miles from Earth.

According to the discoverers, Caltech associate professor of planetary astronomy Mike Brown and his colleagues Chad Trujillo (now at the Gemini North ob-

servatory in Hawaii), and David Rabinowitz of Yale University, the planetoid was found as part of the same search program that discovered Quaoar in late 2002. The astronomers use the 48-inch Samuel Oschin Telescope at Palomar Observatory and the recently installed QUEST CCD camera built by a consortium including Yale and the University of Indiana, to systematically study different regions of the sky each night.

Unlike Quaoar, the new planetoid hasn't yet been pinpointed on old photographic plates or other images. Because its orbit is therefore not well understood yet, it cannot be given an official

name.

"So far we only have a one-day orbit," said Brown, explaining that the data covers only a tiny fraction of the orbit the object follows in its more than 300-year trip around the sun. "From that we know only how far away it is and how its orbit is tilted relative to the planets."

The tilt that Brown has measured is an astonishingly large 20 degrees, larger even than that of Pluto, which has an orbital inclination of 17 degrees and is an anomaly among the otherwise planar planets.

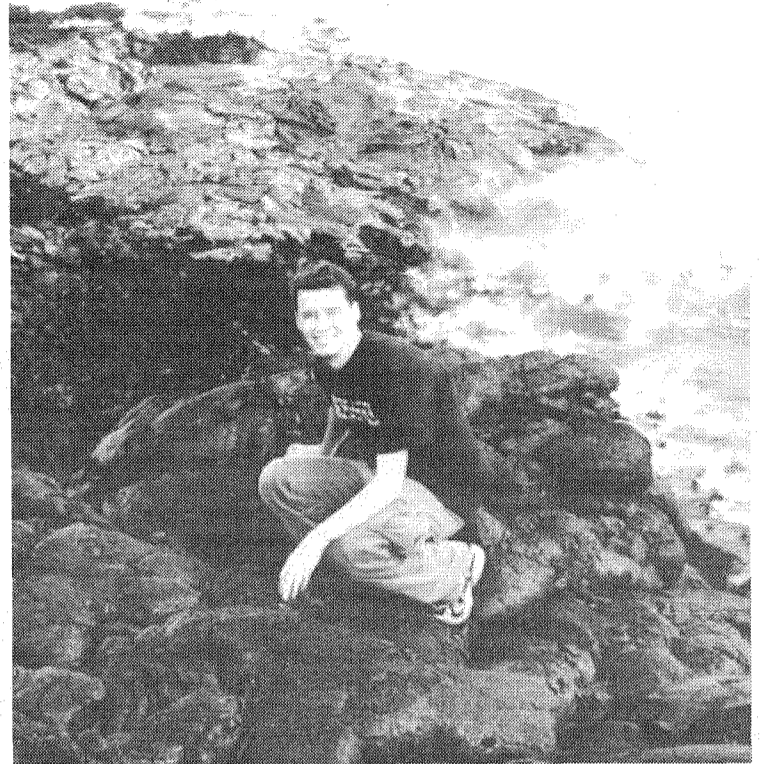
The size of 2004 DW is not yet certain; Brown estimates a size of about 1,400 kilometers, based on a comparison of the planetoid's luminosity with that of Quaoar. Because the distance of the object can already be calculated, its luminosity should be a good indicator of its size relative to Quaoar, provided the two objects have the same albedo, or reflectivity.

Quaoar is known to have an albedo of about 10 percent, which is slightly higher than the reflectivity of our own moon. Thus, if the new object is similar, the 1,400-kilometer estimate should hold. If its albedo is lower, then it could actually be somewhat larger; or if higher, smaller.

According to Brown, scientists know little about the albedos of objects this large this far away, so the true size is quite uncertain. Researchers could best make size measurements with the Hubble Space Telescope or the newer Spitzer Space Telescope.

The continued discovery of massive planetoids on the outer fringe of the solar system is further evidence that objects even farther and even larger are lurking out there. "It's now only a matter of time before something is going to be discovered out there that will change our entire view of the outer solar system," Brown says.

The team is working hard to uncover new information about the planetoid, which they will release as it becomes available, Brown adds. Other telescopes will also be used to better characterize the planetoid's features.



Courtesy of www.noao.edu

Professor Mike Brown is part of the team that is mapping the Kuiper Belt and discovered 2004 DW.

## Students Learn Skills Needed to be Leaders

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networking which include speaking, introducing oneself, passing out business cards and asking questions. These skills will apply to most situations where people interact with each other, such as at receptions, conferences and meetings.

Not only will the conference feature intensive seminars, but it will also include fun door prizes and a lunch hosted by the Alumni Association. During the lunch, students will have the opportunity to interact with alumni and, Houser hopes, practice their networking skills to make connections into many business areas. Houser stresses, however, that the conference will not focus on job search strategies, resume writing, interviewing, or applying for graduate schools. "This isn't going to be a 'how-to,'" he said.

With an outstanding turnout from undergraduates, openings for the conference are now filled with 115 students expected to attend.

In addition to the Undergraduate Career Conference, the Career Center is also planning a Leadership Conference on April 4. Grown from a joint idea between House and Candace Rypisi of the

Women's Center, the conference will focus on resolving conflicts, motivating a team, goal setting, running meetings and other basics of good leadership.

In planning the Leadership Conference, they consulted the Leadership Council, which included students such as Tom Fletcher, Mike Lammers and Rebecca Adler and focus groups of students to brainstorm important issues. Deciding to plan a full-day seminar, they recruited Kathleen Terry from the Industrial Relations Center to teach basic leadership skills.

In addition to the Leadership Conference, hope to encourage student leadership through a Leadership Speaker series, which will draw presenters from the fields of industry, government and academia to share their experiences. Also, Houser hopes to institutionalize leadership and set up student mentoring.

"We want students to be able to show a record of leadership when they graduate. Not only will they have a world-class science background, but they will also have leadership experience," Houser said.

## 5AM Founder Added To Board of Trustees

By MARK WHEELER

PASADENA, Calif.-- John D. Diekmann, a founder and managing partner of 5AM Ventures in Menlo Park, California, has been named a member of the California Institute of Technology's Board of Trustees.

5AM Ventures is a seed and early-stage fund that focuses on creating and building biotechnology companies. The fund is designed to meet the needs of a burgeoning market in the life sciences, and focuses entirely on companies that are often too young to work with larger venture capital funds and need hands-on assistance.

Diekmann has a long-running respect for Caltech that dates back to his days as a kid growing up in the Midwest.

"My mother, who did not go to college, always told me to go to Caltech to get my education," he says. "She read constantly, and envied people who could pursue a

science education at a world-class university.

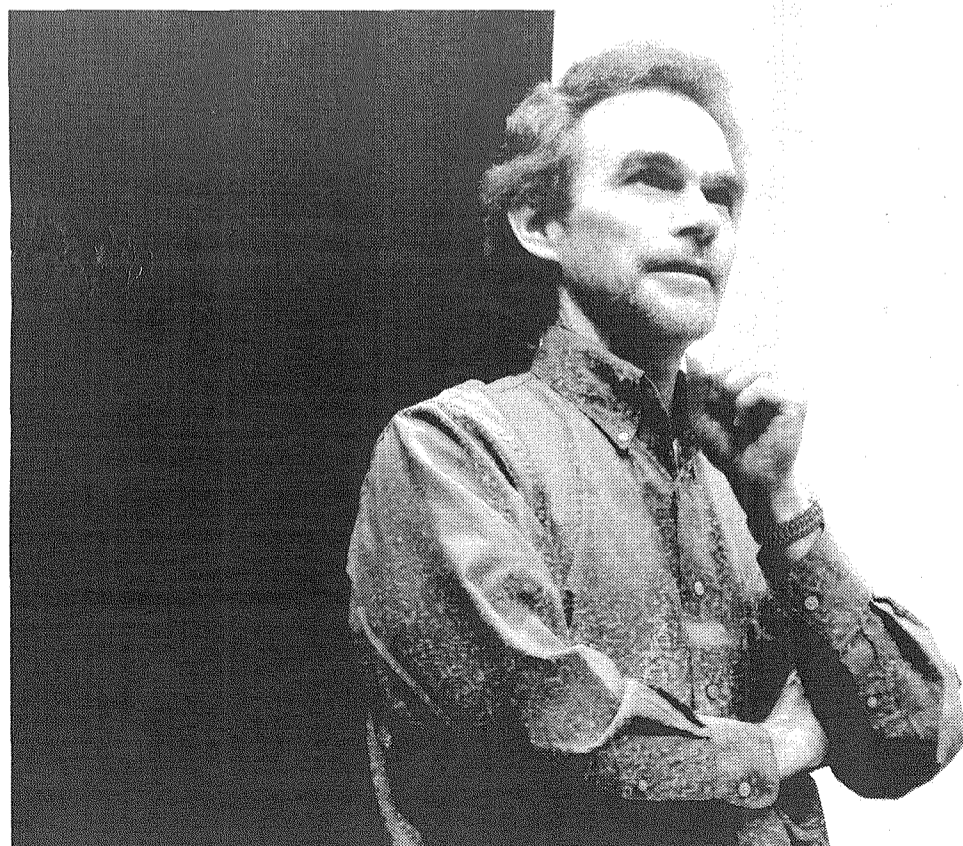
"But at the time we couldn't afford the long trips to California from Cincinnati. The East Coast was closer, and I was able to hitchhike back and forth between home and Princeton."

What he finds special about Caltech, Diekmann says, is the quality of its teaching as well as its research. "So for me, it is truly an honor and pleasure to be associated with one of the best teaching and research institutions in the world," he says.

After receiving his AB in chemistry from Princeton, he went on to earn his PhD, also in chemistry, from Stanford University. Diekmann is also a founder and former vice chairman of Bay City Capital, a general partner of the Aravis Venture, a European-based life science venture fund, and chairman of the Bio\*One Capital Fund.

Besides Caltech, Diekmann currently serves on a number of other boards, including Affymetrix Inc., which is engaged in the development and manufacture of systems for genetic analysis in the life sciences.

## Parkinson's Treatment Researched by Amgen



D. Kortal/The California Tech

Dr. Fenton explained the glial-derived neurotrophic factor, which Amgen hopes can be used to treat Parkinson's Disease. Fenton also spoke on Amgen's success while it was still a start-up.

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to TNF (tumor necrosis factor), Enbrel reduces the inflammation associated with rheumatoid arthritis.

In current research, Amgen is testing the potential of GDNF (glial-derived neurotrophic factor) for treating Parkinson's disease. As a part of his presentation, Dr. Fenton showed a video documenting the before and after effect of GDNF in people suffering from Parkinson's disease and the results are promising. After his talk, Dr. Fenton opened the floor to questions and a member of the audience asked what was most important to the survival of Amgen as a start-up. In response, Fenton emphasized and cited Amgen's legal defenses of intellectual property as a critical factor to the company's success.

The next lecture in the Caltech Biotechnology Club Speaker Series will be on March 5 at the Beckman Institute Auditorium where the guest speaker will be Dr. Roger Perlmutter, Amgen's Executive Vice President of Research and Development.

### The California Tech

Caltech 40-58, Pasadena, CA 91125  
editorial desk: (626) 395-6153  
advertising desk: (626) 395-6154  
editorial e-mail: [tech@tech.caltech.edu](mailto:tech@tech.caltech.edu)

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Tammy Yee Wing Ma Vi Tuong Tran  
Managing Editor Business Manager

Matthew H Walker Circulation  
News Director Natalia Deligne

Tearsheets  
Tim Tirrell

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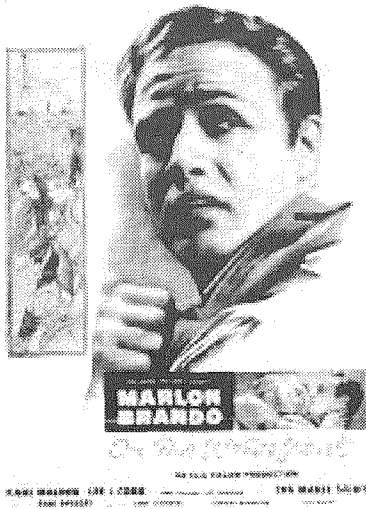
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## On the Waterfront is a Contenda for Best Ever

By HARRISON STEIN

Now that Valentine's Day has come and gone, we can flush the cheesy chick flicks and cliched romances out of our system and enjoy an old-fashioned mob movie. We always associate the organized crime genre with such classics as *The Godfather Trilogy*, *Goodfellas*, and *Scarface* but few have seen the picture that revolutionized the mob film—the "other" Marlon Brando crime drama, *On the Waterfront*.

Whereas most modern Mafioso movies are told from the villains' point of view, *On the Waterfront* deals with the innocent victims of a particular racketeering ring. The poor longshoremen of a waterfront town are bullied and battered by their corrupt union boss



courtesy of www.moderntimes.com

The 1954 Marlon Brando mob film, *On the Waterfront* is worthy to see.

Johnny Friendly (the despicably scary Lee J. Cobb), who is not nearly as pleasant as his name would indicate. Friendly and his associates swindle profits from the hardworking peasants, and when a worker decides to uproot the establishment by divulging incriminating evidence to the Waterfront Commission, Friendly takes him out of the picture.

Failed prize-fighter Terry Malloy unwillingly participates in the gruesome murder as a favor to his brother Charley (Rod Steiger), Friendly's right hand man. However, after inexplicably falling for the victim's sister (Eva Marie Saint in one of the greatest debuts in Hollywood history), Malloy begins a harrowing transformation into a passionate activist, effectively alienating the entire town. In addition, we slowly learn the horrifying truth about Terry's boxing career until all is revealed in a famous taxicab conversation.

The renowned scene, highlight-

ed by the oft-quoted, "I coulda been a contenda," is easily the most tragic and touching moment of this powerful film. Steiger and Brando are at their absolute best during the stunning five-minute ride, and the entire story comes together as we finally understand the cause of Terry's caustic and depressive attitude.

Marlon Brando was only thirty years old when he starred in this 1954 masterpiece but his impressive performance as hardened cynic Terry Malloy remains the premier role of his distinguished career. Terry begins the film as a bitter and autonomous scoundrel and even though he appears content with his carefree existence, we can see the undeniable sorrow in his eyes. In addition, Brando shows unparalleled stage presence as he dominates every scene with his uncanny body language and hypnotizing voice. Brando won the first of his two Oscars for his portrayal of Terry Malloy, and this is a performance you definitely don't want to miss.

Even though director Elia Kazan does an expert job of maintaining a steady pace and mixing action-packed scenes with compelling dialogue and stunningly photographed cut-scenes, he is more remembered for the politics behind this influential picture. Elia was a real-life rat as he helped blacklist a host of Hollywood "Communists" in 1952. Because Hollywood turned on him (and many stars still hadn't forgiven him at the time of his death), Elia made *On the Waterfront* as an allegory for his own experiences. *On the Waterfront* might be one of the greatest pictures ever made but unfortunately, it will always be known as the film Elia Kazan used to justify his own questionable actions.

Nonetheless, the film's artistic value is indisputable. In addition to being the preeminent film of the 1950's, *On the Waterfront* launched a new generation of fantastic gangster movies. Eva Marie Saint, Lee Cobb and Rod Steiger more than hold their own in one of the greatest ensembles of all time and Marlon Brando delivers a performance for the ages. Terry Malloy coulda been a contenda, but *On the Waterfront* fares much better, as a heavyweight champion of movies.

\*\*\*\* out of \*\*\*\*

## Arrogance Pervades Bush Admin.

By PARAG BHAYANI

Ever since it moved into the White House after a questionable election, the Bush administration has repeatedly demonstrated its arrogance and contempt for the basic standards of political conduct. The administration has disregarded public opinion on matters of grave importance to the nation, and has even broken the law in its desire to have its way. Such behavior would never have been allowed by Congress or the public during the Clinton administration; he would have been impeached several times more had he done some of the things that we have seen in the past three years.

Right after the September 11 attacks, the vast majority of the people and many members of Congress demanded an investigation into any intelligence and security failures surrounding the disaster. For a year, Bush was staunchly opposed to such a measure, and was planning on vetoing any bill passed by Congress to establish a panel to conduct an inquiry. Finally, just after the one-year anniversary of the attacks, the President caved to pressure from both parties of Congress and finally indicated his support for the creation of the commission.

In forming the panel, however, who did Bush appoint to be the chairman? A trustworthy man of utmost integrity such as Jimmy Carter? No, that would have been asking too much. Instead, former National Security Advisor and Secretary of State Henry Kissinger was the pick of our president. This is a man who has so many involvements

in human rights abuses that the International Campaign Against Impunity ([www.icai-online.org](http://www.icai-online.org)), a group that advocates proper justice for world leaders guilty of crimes, has a section called "Kissinger Watch" on its website. One of his most notorious decisions was ordering massive bombings over Laos and Cambodia at the end of the Vietnam War, killing nearly one million people. Additionally, in 1975, Kissinger and President Gerald Ford strongly supported Indonesia's invasion of newly-independent East Timor, a move that left over 200,000 dead.

Moreover, most of Kissinger's dealings and affairs were conducted in a veil of secrecy, leaving critics to wonder if any real truth would come to light if he were to chair the 9/11 Commission. Kissinger eventually removed himself from the panel, not because of

outrage over his appointment, but because he did not want to reveal the clients of his private consulting firm to clear conflicts of interest.

Former New Jersey Governor Thomas Kean was appointed to take his spot.

The Bush administration would have you believe that it has been fully supporting and cooperating with the panel since its creation, but its actions contradict this assertion. In March of 2003, Kean asked for \$11 million in supplemental appropriations for the panel, proposing that this be tacked onto the \$75 billion that Bush requested from Congress for the war in Iraq. The administration refused. Even after this funding flap, the President found new ways to prevent the panel

**"This was clearly a case of the Bush administration retaliating against a staunch opponent."**

from completing its work.

Despite endlessly repeating such platitudes as "[Bush is] dedicated to cooperation with the 9-11 commission and has directed that the administration cooperate," the executive branch has withheld many important documents that the panel needs. Kean has even threatened the use of a subpoena to obtain the necessary information.

Despite this blatant lack of support, up until two weeks ago Republican leaders were adamant in holding the May deadline for the commission's final report. Bush and Speaker of the House Dennis Hastert emphasized that the commission had been given enough time, despite the stonewalling effort on the part of the administration. The panel repeatedly requested more time, and finally, Bush relented. Now the target



courtesy of www.alliance-cine.org

President Bush appointed the infamous Henry Kissinger to head the 9-11 investigation panel.

date is January, 2005—well after the November election; it is clear that something potentially damaging could have been released in the months leading up to the election, and this needed to be prevented to ensure the optimal situations for the Bush re-election campaign.

During the summer of 2002, Joseph Wilson, a career diplomat and former Ambassador to Gabon, was sent by the CIA to Africa to investigate supposed sales of yellowcake uranium by Niger to Iraq, as the administration built up its case of war. Wilson found no connection, and when he reported this upon his return, his advice was unheeded by the White House senior staff. Wilson became a vocal opponent of war and spoke out against the Bush rationale for invading Iraq up until the invasion last March.

Four months later, conservative writer Robert Novak, citing two senior White House staffers, revealed that Wilson's wife, Valerie Plame, was a CIA agent who investigated WMD proliferation. This was clearly a case of the Bush administration retaliating against a staunch opponent, as divulging the identity of an undercover agent is a felony. Revealing an agent endangers the life of that person and anyone who may be working with him or her.

The first President Bush, who is a former CIA chief, has said, "I have nothing but contempt and anger for those who betray the trust. They are, in my view, the most insidious of traitors." Apparently someone very high up in his son's government is an insidious traitor, and one would hope that this matter would be investigated and resolved quickly. However, instead of appointing an independent counsel to inves-

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# Addressing the Gender Bias in Math, Science

By **MARISSA MOCK**

[Author's note. The opinions I express are entirely mine and do not represent the views of any other person or entity, including the GSC and the GSC/WEST survey committee.]

Much has been written on the subject of women in science and engineering. The philosopher Sandra Harding has noted "Women have been more systematically excluded from doing serious science than from performing any other social activity except, perhaps, front-line warfare." Elga Wasserman reminds us, "Since there continue to be relatively few tenured women even in humanistic disciplines in which women have been earning a high proportion of doctorates for many decades, it is apparent that the persistent scarcity of women scientists at the top must be the result of factors beyond the number of doctorates earned by women."

Indeed, the "leaky pipeline" metaphor is widely discussed: the data show a loss of women at each stage along the educational pipeline from college to graduate school, graduate school to postdoc to junior faculty and so on (See table).

Why do they leave? Nobody believes any longer, I hope, that women leave because, as Barbie says, "Math class is tough." Do they leave because a successful science career requires a single-minded dedication that is incompatible with starting a family? Because there are few high-achieving female role models to show them it can be done? Or, is it possible - despite an abundance of programs aimed at increasing the participation of women in science, despite innumerable declarations of dedication to improving gender diversity from prominent science organizations and universities - is it possible these women have decided science does not want them?

Let us consider Caltech. It is an elite institution of math, science, and engineering. It has performed at the forefront of research in these fields for decades, and graduates of Caltech pervade the scientific leadership in both industry and academia. It is not much of an exaggeration to say that the

culture of Caltech is the culture of elite science.

And at Caltech, 37% of women graduate students report experiencing negative comments about their scientific ability based on gender (compared to 4% of men), as reported in the recent release "Gender Harassment in the Caltech Graduate Student Experience" from the Spring 2003 GSC/WEST Quality of Life Survey for graduate students (see <http://www.its.caltech.edu/~survey/results.html>). This result is one of a host of disturbing numbers contained in the report (for example, see accompanying figure), including the astounding statistic that 63% of our women graduate students have experienced at least one of four negative behaviors based on gender:

1) unwanted attention (e.g., persistent pressure for dates, inappropriate touching); 2) negative comments about scientific ability; 3) demeaning language (e.g., unwanted teasing, inappropriate jokes, and written or spoken remarks including email); and 4) exposure to offensive material (e.g., posters, magazines, video games).

This is the majority of our women graduate students. This is terrible. And there are terrible, though logical, consequences. Students who have been harassed are significantly less likely to agree that the climate at Caltech is supportive of gender diversity and significantly less likely to recommend Caltech to prospective students.

Striking as many of these numbers are (and it is an understatement to call the fact that 87% of women in the Division of Chemistry and Chemical Engineering have experienced at least one of these harassing behaviors 'striking'), my attention was caught by the women who experienced negative comments about their scientific ability based on gender. We are drawn together here at Caltech because we are scientists - top scientists in our fields, no less - and an attack on scien-

tific ability based on gender is an attack on the very reason one is welcomed at Caltech in the first place. What could prompt this? I see four possible explanations:

1. It is the truth. Of course, I've already established my optimistic belief that, aside from easily dismissible Barbie, nobody consciously thinks individual women cannot intellectually handle math and science. I would also like to point out that we are talking about a pretty select group of women: getting into Caltech for graduate school is not easy. For the 2003-2004 academic year, 652 gradu-

4. It is the subconscious manifestation of a cultural stereotype. Stereotyping is an important intellectual tool we use to make quick decisions based on previous experience. It becomes a problem when "individuals are treated as group members who possess a given set of traits rather than as individuals to be judged on their own merits" (D. Rosenfield and W.G. Stephan). An old stereotype that women are not as intelligent as men is undeniably part of our cultural legacy, and the mathematical part of this belief seems to have been harder to dispel than

	Undergraduate* (%)	Graduate* (%)	Postdoc* (%)	Faculty† (%)
Biological Sciences	55.3	42.9	37.8	20.2
Engineering	18.6	14.8	14.7	8.4
Mathematics	46.8	25.5	21.0	8.3
Physical Sciences	39.2	23.2	17.0	10.4

compiled by Marissa Mock

**The Leaky Pipeline: The percentage of women in math, science, and engineering decreases at each successive stage of the educational pathway.**

ate students were admitted to Caltech from a pool of 5150 applicants (13%). The women here are among those few students who made it through a rigorous process designed to select those with exceptional science and engineering ability.

2. It is simple miscommunication. Except, how? What sort of completely innocent comments can be misinterpreted to denigrate ability based on gender? I'm willing to imagine some very insecure student could interpret constructive criticism, especially if it is not also offered to a male peer, as resulting from her gender. But do 37% of our women students suffer from extreme sensitivity to criticism combined with unwillingness to accept responsibility for their weaknesses?

3. It is a deliberately harmful statement. Debate is an important facet of scientific life, and members of the Institute community are likely in the habit of being right. How tempting is it, when hotly defending your ideas, when prodding your students to higher levels of work and thought, to reach for an easy argument that proves your case? Again, I can imagine it, but I have trouble believing deliberate behavior accounts for much of this widespread harassment.

other aspects (e.g., reading, writing, voting). It is not fair to the women of Caltech to allow this cultural bias to influence our behavior, but it may be easy to do.

To me, the final possibility rings most true, even though in some ways it's the least satisfying answer. How do we battle a subconscious behavior that many of the participants may not even recognize? Stereotypes tend to become self-fulfilling prophecies: we remember evidence that fits our perceptions more readily than we remember contradictory data. For example, when a woman struggles with a math problem, we may immediately decide she is weak in math, but we excuse a man's struggles as a lapse in preparation. To halt this sort of thinking, each individual must be willing to examine his or her own biases and to force these subconscious thought patterns to the surface where they can be rationally evaluated.

I think the numbers from the GSC/WEST survey are a result of subconscious bias and miscommunication more than of maliciousness. Nevertheless, the lack of intent to harm does not necessarily mitigate damage. The survey report did not directly address the effect of gender harassment on an individual's choice to continue in science, but it is not a great intuitive leap to postulate, first, that gender harassment leads to an environment that is unwelcoming to women, and, second, that people who feel unwelcome are more likely to leave. We know the pipeline leaks. Is gender harassment one of the cracks?

We should do something about these survey results. Where Caltech leads, science follows. By seriously addressing these issues and developing real cultural change, this Institute has the power to improve the quality of life not only for its current women graduate students but for generations of future scientists throughout the world. I urge it to use that power. And I urge you, the individual member of the Caltech community, to think seriously about your own contribution to campus culture. Change starts with you.

## ADMINISTRATION'S APPOINTMENTS CONTROVERSIAL, ACTIONS SUSPECT

Continued from Page 4, Column 5

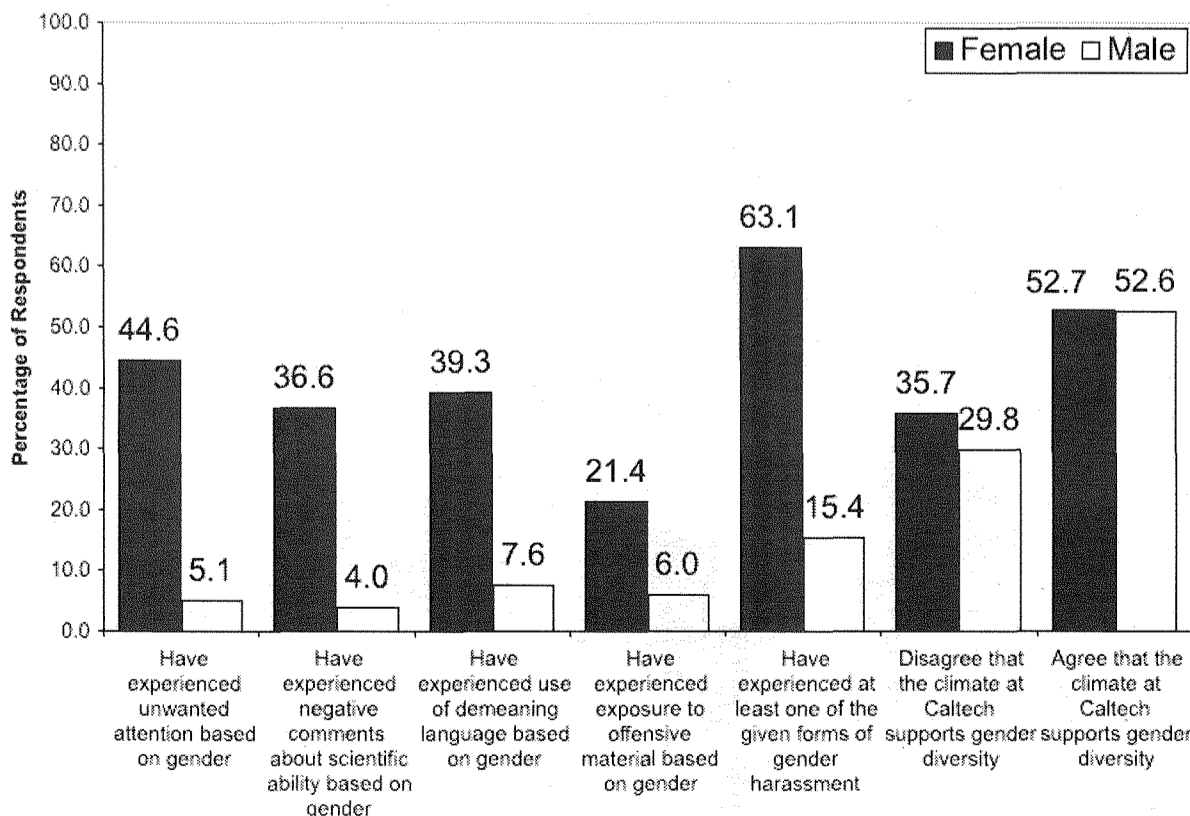
tigate the matter, Bush had conservative Attorney General John "Spend \$8,000 to cover up a bare breast on the statue of the goddess of Justice" Ashcroft look into it. This is the same Ashcroft whose career was rescued by Bush after he lost his bid for re-election to the Senate. After about five months of little progress, Ashcroft finally turned the case over in late December to the diligent and independently-minded U.S. Attorney Patrick Fitzgerald of Chicago. Last month a grand jury was convened and is expected to turn out an indictment soon; investigators are looking into members of Dick Cheney's staff as possible culprits. This is bittersweet news to Plame, though, whose career was ruined by an action that would have resulted in an impeachment for any other president.

In the face of the revelations of weapons inspector David Kay that Iraq most likely did not have WMD, Bush was under fire to create another independent team to look into intelligence failures. He quickly went ahead and did so, but this effort was inadequate. For example, this commission will have no subpoena power; also, it cannot examine how any intelligence was used by the higher-ups in the administration. Therefore, we will never know if Cheney, Rumsfeld, & Co. distorted anything to make their case for war.

What was most controversial, though, was the choice for co-chairman, Laurence H. Silberman. He is not a household name, but has spent much of his career as a lawyer and judge staunchly supporting right-wing causes, and has let his conservative views influence his decisions. He was one of Bill Clinton's strongest antagonists, blocking Clinton's attempts to track down leaks from Independent Counsel Ken Starr's office. But when President Reagan was under investigation, Silberman wrote an opinion striking down the Independent Council Act (a ruling reversed by the Supreme Court).

Silberman's most famous action was voiding the conviction of Colonel Oliver North, who had been implicated in the Iran-Contra scandal. This affair involved selling arms to Iran, with the profits from sales being funneled to the anti-Communist Contra rebels in Nicaragua. The problem was that both of these actions were illegal and went against declared U.S. policy. North and National Security Advisor John Poindexter were convicted on felony charges for facilitating these dealings, but their records are now clean thanks to Silberman.

Even though more people voted for another man, Bush has demonstrated his pretension over and over again. He has conducted himself as though he came to power with a mandate of the vast majority of Americans, and we are tacitly giving the administration this illusion by not demanding that it be held accountable for its actions. *MoveOn.org* is a great place to start, as it is circulating on online petition to censure the President for misleading the nation about the war in Iraq. However, more must be done for a public to require that it has a straightforward government that will conduct itself fairly and ethically in matters that are of interest to everyone in this nation.



compiled by Marissa Mock

**Female and male response to questions about the experience of various negative behaviors based on gender, from the 2003 GSC/WEST Survey of the Quality of Graduate Student Life. Total response was 678 students or 57% of the graduate population. Chart is taken from the report "Gender Harassment in the Caltech Graduate Student Experience."**

# Let Me In! A Nice Guy's View on *The Vagina Monologues*

By LYLE CHAMBERLAIN

Some friends and I went to the *Vagina Monologues* on Valentines Weekend. I went with an open mind. "After all," one of them advised, "You need to go to understand what your wife feels like when you get married some day." We walk into a lobby filled with pamphlets screaming "you're gonna get raped in 20 different ways! You can't be TOO paranoid!" and sit down and listen to two things: women getting raped or abused by men, and women being healed by women (lesbian pedophiles, "sex workers," or masturbation).

Despite my testosterone and nearby friends, I cried during the section about rape, deformations, and acid burning in the Middle East. I was shocked by the heinous crimes committed against hundreds of women in Mexico with no legal retaliation. I felt anguish for the little girl who was raped by her father's drunk friend at a party. "What should we do?!" I thought to myself. "I want to help! I want to do something!" Though I was dazzled by the excellent production, I was disappointed by the answer.

Instead of finding a partner that loves and appreciates her, the 13 year old (later changed to a 16 year old because universities stopped sponsoring the performance due to pedophilia accusations) who had previously been raped by her father's friend is later "saved" and introduced to her vagina. A 24 year old neighbor woman invites her to her apartment, gives her alcohol, and seduces her. I understand that this is supposed to be a tragic contrast to the violent rape by a man, and that if this was

rape she says, "it was good rape!" But what is a good rape? I guess it's the one where she realizes, "I would never have to rely on a man again."

There is the monologue of the middle-aged woman who finally found "herself." For whatever reason, she had never had an intimate relationship. The play didn't examine the tragedy that she had never had a partner or a family or that she was alone. No. In a world filled with the social sophistries of men, where women are oppressed and ashamed of their bodies, the problem was obviously that she had never learned to masturbate! At a workshop in a room full of women lying on blue mats with hand mirrors, she touches herself for the first time, cries, and is healed.

Finally, for the women in the Middle East, no hopeful monologue is given, just the sad tale of the crimes committed and a call for the "vagina warriors" to rise and take back what is theirs. I agree wholeheartedly. Something needs to be done. Maybe if they start masturbating they will liberate themselves from men and things will get better!

Well, come on. We guys aren't so bad! You would think something so focused on the "thoughts" of vaginas would involve a man in some positive way. Well, there was just one. In, "He liked to look at it," a vagina goes to bed with a man she had no more than a passing interest in. She goes on for minutes stressing that he was bland, uninteresting, etc. But she discovers that he has a peculiar fixation on "her" and stares for over an hour. She leaves with self-confidence and a new faith in her vagina, though quite disinter-

ested in the poor guy. Come on! Is that all we're worth as men? Could we have a relationship? Could the only non-violent man in the play be a soul mate? No? How about a whipped boy friend? O.K. An average boy friend? Nope. Sorry guys. You can be either a passing acquaintance (unreliable sex) or an abusive monster (guaranteed sex). Take your pick.

I wondered why this play is so popular. There are many reasons, some quite legitimate, but we can't ignore one of the answers network television would definitely agree with: Sex sells. Out of the many genuinely poignant, energetic, or funny scenes, just one got a standing ovation: the "Moaner," where a woman lawyer turned sex worker gives a categorical analysis and impressions of female orgasmic moans. (If you thought that was funny, you should have watched the faithful translation into sign language!) The message we sent as an audience was clear: "ENTERTAIN US!" The bread-and-circus evening came complete with an opportunity for us to scream the word "CUNT! CUNT!" in unison at the top of our lungs, reveling in our liberated view of the women in our lives. This shocking performance will "end the violence" against women. "The vagina warriors will stand and, as an indignant matriarchal army, fight until the violence stops! Cunt!"

We don't need "monologues." The implications of this word are short sided and wrong in terms of self-identity and sensuality. Humans, both male and female, need



Courtesy of R. Niemer  
Members of the Caltech community perform in February 13th's VDay performance of *The Vagina Monologues*.

real relationships and a society that applauds them. Here we are at Caltech, where we enjoy unprecedented freedom of expression and communication. But last Friday we chose to nurture fear, glorify unhealthy or illegal relationships, and completely ignore the alternative of a happy monogamous couple as a solution to the violence that plagues our sisters. None of the talking vaginas ever mentioned the joys of rearing a family or living with a sensitive spouse. I guess it is naive and unsophisticated to believe in happy monogamy.

We definitely need to address women's issues, but right now we don't need shock therapy. Pouring salt into a mortal wound might

sting, but it won't stop the bleeding. We already knew the wound was there--let's get to the hospital! We are a mature community that usually listens when issues are raised and solutions proposed. The focus on sensuality and not real relationships only serves to reinforce women's identity as a sex object. We should view the other half of humanity (men) as an integral part of the solution, not as an enemy or distant acquaintance--not because women are weak, but because they are human. At least acknowledge love and respect between partners. Isn't that what Valentine's Day is all about anyway? Come on, give us a chance!

## Feb. ASCIT Minutes

February 11th, 2004, 12:02 PM, Olive Walk

Vasconcellos, & Corinna Zygourakis.

Present: Joanna Cohen, Abe Fetterman, Tom Fletcher, Kathryn Hsu, Galen Loram, Jeremy Pitts, Anna Sczaniecka, Andrea Vasconcellos, & Corinna Zygourakis.

Guests: Ann Bendfeldt, Will Coulter, Ryan Farmer, Jimmy Jia, Shaun Lee, Kelly Lin, Binghai Ling, Kim Pendorf, & Claire Walton.

1. Call to Order  
2. A large number of athletes came to the BOD meeting on Wednesday to show their support for Caltech athletics. They requested that ASCIT increase the amount of money for athletic jackets to the amount that it was last year. Vote: 4-0-2, approved (Anna and Kathryn abstain). An additional \$800 will be allocated to athletic jackets this year. In the future, ASCIT would like to hold more social events such as rallies and BBQs to increase the turnout at Caltech games.

1. Call to Order  
2. The BoD met with Margo Marshak on Thursday, February 19th and discussed the new online registration system. It is important that students understand that this is only the 'first phase' of the system and offer positive feedback. Students should provide the developers with constructive criticism and tell them what they would like to see in the system.

3. Galen requested an additional \$300 for the BoC. Vote: 6-0-0, approved.

3. On Tuesday, February 17th, We Are Scientists and Bishop Allen played in the Coffeehouse. A good time was had by all.

4. Jeff Cox submitted an impact report for *little t* to the Moore-Hufstедler Fund.

4. Ruddock requested \$500 for OPI. Vote: 5-0-0, approved.

5. Currently there is a lot of discussion about the possibility of freshmen living in Avery one day, which deeply concerns some of the members of the BoD.

5. The BoD met on Monday, February 16th and discussed how to update some of the current resolutions to make them more accurate. For instance, the treasurer no longer deals with the Bank of America. The BoD also put together the first ever staff appreciation awards. Recipients will be announced soon.

Meeting adjourned at 12:58 PM.

6. Will Coulter introduced Jimmy Jia and Binghai Ling to the BoD and asked the BoD to approve them as new Dev Team members. Vote: 6-0, approved.

February 18th, 2004, 12:03 PM, Olive Walk

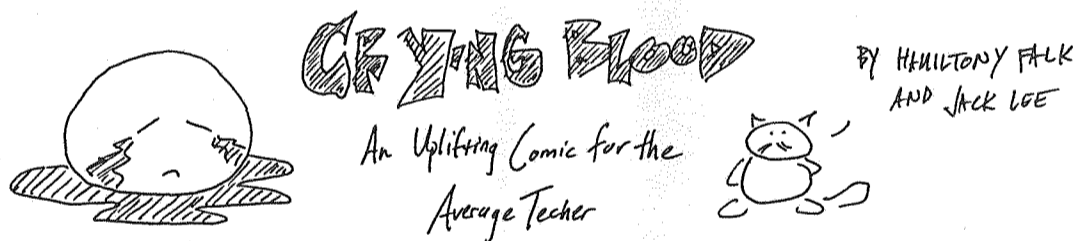
7. The BoD wants to purchase a wireless router for the Coffeehouse. Vote: 7-0-0, approved.

8. Congratulations to Jason Quimby, the new Page President.

Meeting adjourned at 12:56 PM.

Present: Joanna Cohen, Abe Fetterman, Tom Fletcher, Kathryn Hsu, Galen Loram, Jeremy Pitts, Anna Sczaniecka, Andrea

Respectfully Submitted,  
Anna Sczaniecka  
ASCIT Secretary

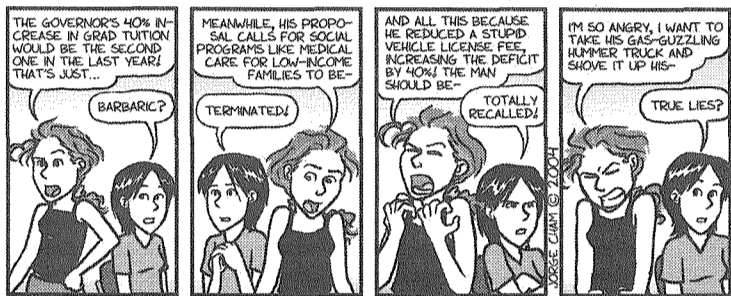
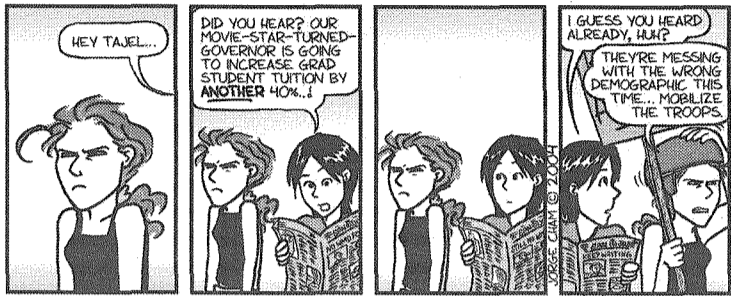
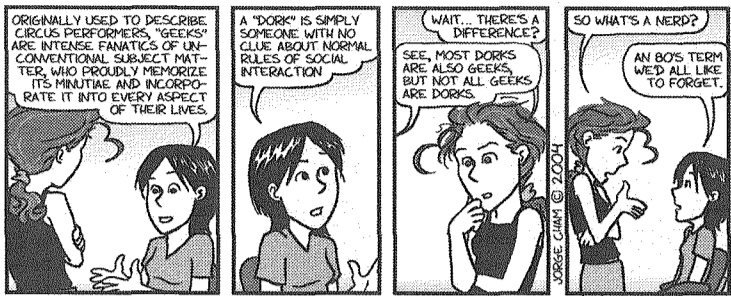


Yo, wanna watch a movie???	I have to take 3 midterms, do 2 sets, write a paper...	...finish a lab, take a chem quiz, study for bio...	I DON'T EVEN HAVE TIME TO PEE!!!!!!
OPEN KITCHEN!!	Just a drink?	Sure, I don't want to abuse the privilege	me...neither...
Hey, wanna play Risk?	No, I got a math set	Don't worry about it	Guys, I got a fifth player!

**PILED HIGHER AND DEEPER**  
by Jorge Cham



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"Results were found through direct experimentation."	"WE PLAYED AROUND WITH IT UNTIL IT WORKED."	"These results suggest that..."	"IF WE TAKE A HUGE LEAP IN REASONING, WE CAN GET MORE MILEAGE OUT OF OUR DATA..."
"The data agreed quite well with the predicted model."	"IF YOU TURN THE PAGE UPSIDE DOWN AND SQUINT, IT DOESN'T LOOK TOO DIFFERENT!"	"Future work will focus on..."	"YES, WE KNOW THERE IS A BIG FLAW, BUT WE PROMISE WE'LL GET TO IT SOMEDAY."
		"...remains an open question."	"WE HAVE NO CLUE EITHER."

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# Mister Sir Answers Life Questions

Dear Mister Sir,  
I'm just way too popular--all the ladies love me. I mean, they always leave their doors open and are just waiting for me. But for some reason, they always play hard-to-get and don't allow me to touch them. It's crazy! I can't take it anymore. Help!  
-Ladies Man

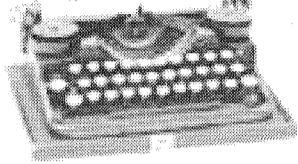
I also only eat one pop tart each day and shower once a month. I just need more time!! How can I get my work done?  
-Rockin Out in Ruddock

Dear Mister Sir,  
This morning I woke up and realized that I have genital warts. I tried going to the chemistry lab and burning them off, but that hurt a lot. Do you have any other suggestions?  
-In Pain

Dear Ladies Man  
Your problem is probably that you're too much for these girls. They're afraid of a hunk like you, and don't know what to do when you're around. I would suggest that you just hang out around their rooms and make yourself well known. After a while they'll warm to you and accept your charms.  
Sincerely, Mister Sir

Dear Rockin Out  
Why are you wasting your time with homework? Do you have any

## Ask Mister Sir



Dear iIn Pain  
Did you try using chemicals? I hear they burn stuff off real good. Anyway, if I know genital warts (and I think I do) they'll be gone by morning. Just remember, safe sex isn't nearly as fun!  
Sincerely Mister Sir

Dear Mister Sir,  
So I was doing laundry the other day, and when I opened up my laundry bag when I got back to my room, I found someone else's underwear. It definitely had some mysterious stains on it. Now I'm afraid to wear all my other clothes. What should I do??  
-Worried About Diseases

idea how much money there is in using your nerdy skills to make illegal drugs and sell them? Don't bother with physics, just focus on your chemistry skills and you'll do plenty well.  
Sincerely, Mister Sir

Dear Mister Sir,  
I am an athlete at Caltech. I play absolutely every sport that we offer including badminton. Last week, I tried qualifying for the Tour de France. But the timers made a mistake and told me I am too slow. Can I report this to the BOC as an honor code violation?  
-Blacker Biker

Dear Worried About Diseases  
There is no such thing as "dirty" clothes. All this talk about "diseases" and "hygiene" is just made up by modern corporations to trick you into buying expensive "soap" and "detergent." Just wear the clothes and accept the strange colors as "decoration." Be thankful for the free pair of undies.  
Sincerely, Mister Sir

Dear Mister Sir,  
I love cats. A lot.  
  
Dear ?  
Who cares? You're probably a loser.  
Sincerely, Mister Sir

Dear Blacker Biker  
What the hell are you talking about? You are too slow. It takes years of training to compete in the Tour de France and you're just some Caltech student who thinks he's good enough for a real school. We're Division III for God's sake. And why would it be a BoC violation? It has absolutely nothing to do with the honor code. Why are all you Caltech students such complete morons?  
Sincerely, Mister Sir

Dear Mister Sir,  
I keep falling behind on my homework. I mean, the physics homework is due next Friday and I'm only on the last problem! I'm thinking about waking up earlier on weekends so I have more time to do my homework. I've already stopped talking to everyone in my house and have limited myself to one bathroom break per day.

Dear Mister Sir,  
There's a bear outside my room. I've been trapped in here for almost a week, and I'm almost out of food. I live on the second floor and am afraid of heights, so I can't use the window to get out. My roommate went for help on the third day, and I haven't heard from her since. Please send help. I don't think I have long to live.  
-Desperate in Dabney

Dear Mister Sir,  
I am a heartsick freshman at Caltech. I'm completely in love with this one girl, but every time I turn to talk to her, she sticks her nose at me and shares saliva with another girl. I don't want to glom, but how can I get in the know with this dreamy girl?  
-Sleepless in 'Sadena

Dear Desperate in Dabney  
A bear you say? You're probably dead by now. But if you do happen to still be alive, you probably have some time to run before the bear is finished eating whoever delivered this paper.  
RUN!!!!!!  
Sincerely, Mister Sir

Dear Sleepless in 'Sadena  
I don't know how you can be heartsick in this place. The girl you're talking about is probably one of those uptight fundamentalist Christians or something, so don't worry about it. There are lots of fine ladies here, so just find another one.  
Sincerely, Mister Sir

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# Keck Telescope Confirms Largest Red Shift to Date

By ROBERT TINDOL

PASADENA, California--The farthest known object in the universe may have been discovered by a team of astrophysicists using the Keck and Hubble telescopes. The object, a galaxy behind the Abell 2218 cluster, may be so far from Earth that its light would have left when the universe was just 750 million years old.

The discovery demonstrates again that the technique known as gravitational lensing is a powerful tool for better understanding the origin of the universe. Via further applications of this remarkable technique, astrophysicists may be able to better understand the mystery of how the so-called "Dark Ages" came to an end.

According to California Institute of Technology astronomer Jean-Paul Kneib, who is the lead author reporting the discovery in a forthcoming article in the *Astrophysical Journal*, the galaxy is most likely the first detected close to a redshift of 7.0, meaning that it is rushing away from Earth at an extremely high speed due to the expansion of the universe. The distance is so great that the galaxy's ultraviolet light has been stretched to the point of being observed at infrared wavelengths.

The team first detected the new galaxy in a long exposure of the Abell 2218 cluster taken with the Hubble Space Telescope's Advanced Camera for Surveys. Analysis of a sequence of Hubble images indicate a redshift of at least 6.6, but additional work with the Keck Observatory's 10-meter telescopes suggests that the astronomers have found an object whose redshift is close to 7.0.

Redshift is a measure of the factor by

which the wavelength of light is stretched by the expansion of the universe. The greater the shift, the more distant the object and the earlier it is being seen in cosmic history.

"As we were searching for distant galaxies magnified by Abell 2218, we detected a pair of strikingly similar images whose arrangement and color indicated a very distant object," said Kneib. "The existence of two images of the same object indicated that the phenomenon of gravitational lensing was at work."

The key to the new discovery is the effect the Abell 2218 cluster's gigantic mass has on light passing by it. As a consequence of Einstein's theory of relativity, light is bent and can be focused in a predictable way due to the warpage of space-time near massive objects. In this case the phenomenon actually magnifies and produces multiple images of the same source. The new source in Abell 2218 is magnified by a factor of 25.

The role of gravitational lensing as a useful phenomenon in cosmology was first pointed out by the Caltech astronomer Fritz Zwicky in 1937, who even suggested it could be used to discover distant galaxies that would otherwise be too faint to be seen.

"The galaxy we have discovered is extremely faint, and verifying its distance has been an extraordinarily challenging adventure," Kneib added. "Without the magnification of 25 afforded by the foreground cluster, this early object could simply not have been identified or studied in any detail with presently available telescopes. Indeed, even with aid of the cosmic lens, our study has only been possible by pushing our current observatories to the limits

of their capabilities."

Using the unique combination of the high resolution of Hubble and the magnification of the cosmic lens, the researchers estimate that the galaxy is small--perhaps measuring only 2,000 light-years across--but forming stars at an extremely high rate.

An intriguing property of the new galaxy is the apparent lack of the typically bright hydrogen emission seen in many distant objects. Also, its intense ultraviolet signal is much stronger than that seen in later star-forming galaxies, suggesting that the galaxy may be composed primarily of massive stars.

"The unusual properties of this distant source are very tantalizing because, if verified by further study, they could represent those expected for young stellar systems that ended the dark ages," said Richard Ellis, Steele Family Professor of Astronomy, and a coauthor of the article.

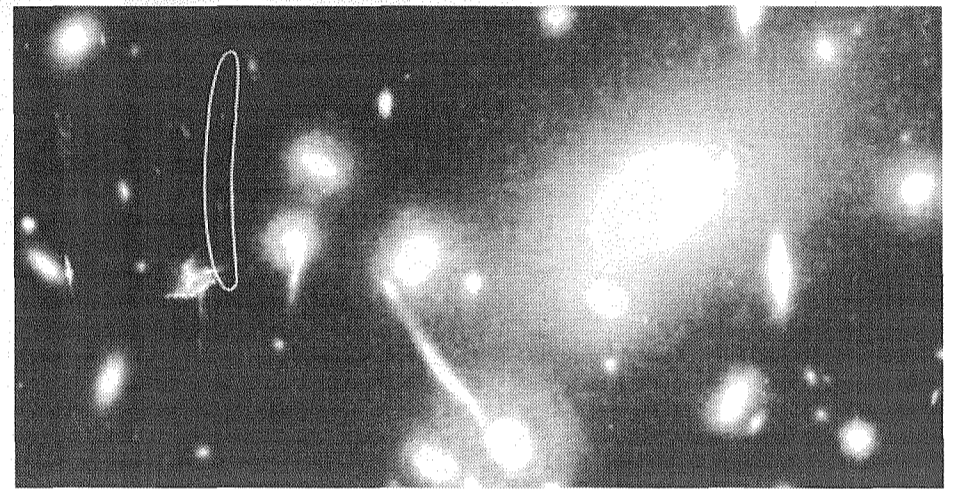
The term "Dark Ages" was coined by the British astronomer Sir Martin Rees to signify the period in cosmic history when hydrogen atoms first formed but stars had not yet had the opportunity to condense and ignite. Nobody is quite clear how long this phase lasted, and the detailed study of the cosmic sources that brought this period to an end is a major goal of modern cosmology.

The team plans to continue the search for additional extremely distant galaxies by looking through other cosmic lenses in the sky.

"Estimating the abundance and characteristic properties of sources at early times is particularly important in understanding how the Dark Ages came to an end," said Mike Santos, a former Caltech graduate student involved in the discovery and now a postdoctoral researcher at the Institute of Astronomy in Cambridge, England. "We are eager to learn more by finding further examples, although it will no doubt be challenging."

The Caltech team reporting on the discovery consists of Kneib, Ellis, Santos, and Johan Richard. Kneib and Richard are also affiliated with the Observatoire Midi-Pyrenees of Toulouse, France. Santos is also at the Institute of Astronomy, in Cambridge. The research was funded in part by NASA.

The W. M. Keck Observatory is managed by the California Association for Research in Astronomy, a scientific partnership between the California Institute of Technology, the University of California, and NASA. For more information, visit the observatory online at [www.keckobservatory.org](http://www.keckobservatory.org).



Courtesy of [astro.caltech.edu](http://astro.caltech.edu)

The pair of circled arcs is the image of the distant galaxy caused by gravitational lensing by the Abell 2218 Cluster.

## Engineers Without Frontiers Tackles International Issues

By JON OTHMER

The phrases "high-tech" and "international development" do not often appear together. And why would they? It seems almost silly to speak of high tech in an environment where state-of-the-art may mean ox-drawn ploughs or foot-pump spinning wheels. Nevertheless, appropriate, sustainable technologies can play a crucial role in improving standards of living in developing countries. "Appropriate" means that technological solutions should be conceived with the culture and infrastructure of their target community in mind. Technology designed to serve developed world may work fabulously in the United States yet prove ineffective in a country where infrastructure is less developed or technological know-how is scarce. "Sustainability" refers to environmental sustainability, but more importantly to people's ability to maintain technology within or near their community, and even to produce the products locally. Thus, a hand crank water pump that needs no electricity, can be produced locally from local materials, and can be fixed by members of the community might be better in the long term a providing a reliable water supply than a motor driven pump imported from the developed world.

Understanding the relationship between technology and international development and the role that scientists and engineers can play in designing technological solutions to problems in developing communities is the goal of Engineers Without Frontiers at Caltech (EWF-CIT), a new student organization on campus, which is open to all undergraduate and graduate students in science, engineering, and social science. EWF-CIT is a local chapter of a national organization, Engineers Without Frontiers, USA (EWF-USA). EWF-USA, the American counterpart to Engineers Without Borders, Canada, was born in 2001 at Cornell University. EWF-USA seeks to raise awareness about the role of technology in international development and to find technological solutions to problems facing underdeveloped communities. This

is accomplished primarily through student internships both in the United States and abroad. Our mission as the Caltech chapter of EWF parallels that of the national organization, but also accounts for the unique nature of Caltech and the opportunities afforded its students. We wish to promote awareness of and discussion about international development and the role appropriate technologies can play in development. Long-term goals include sponsoring student internships, developing SURF projects related to international development, and incorporating international development into the curriculum for engineering design courses. Events we have sponsored include screening and discussion of "Bread and Roses," a film that chronicles the Justice for Janitors campaign in Los Angeles in the 1990s, and a trip to Tierra Miguel farm, a non-profit community supported agriculture farm in Pauma Valley, near San Diego. We hope to continue to sponsor film screenings, discussions, field trips, and presentations by both visitors and members of the Caltech community.

Our first main event for EWF-CIT will be a visit on February 26th and 27th by Tim Prestero, co-founder of Design that Matters, a Massachusetts-based non-profit organization that seeks to develop novel technological solutions to problems facing developing countries. Prestero has been an instructor for the "Design that Matters" course at the MIT Media Lab in which students work on design projects motivated by the needs of developing communities. Students from Worcester Polytechnic Institute have also become involved. Successful inventions from this program include cholera treatment devices and a non-electric incubator for premature babies. While on campus Prestero will give a presentation to the environmental science discussion group, meet with interested faculty and students, and give a public lecture on international development on Thursday February 26th at 8:00 PM in Keck 142.

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## Registrar Offers Class Selection on Web Site

By DAVID LEVY and  
BETH MOORE

The Office of the Registrar is preparing to launch its first web-based service, web enrollment. Known as REGIS, and developed in partnership with the Administrative Technology Center [ATC], this is the first in a series of Student Affairs' initiatives intended to better use technology to provide more effective service to students, faculty, and staff and to do so in a paperless or near-paperless environment. Scheduled to be available on February 26th for the Spring 03/04 term, the first phase of Web Enrollment will streamline and automate registration activities at Caltech.

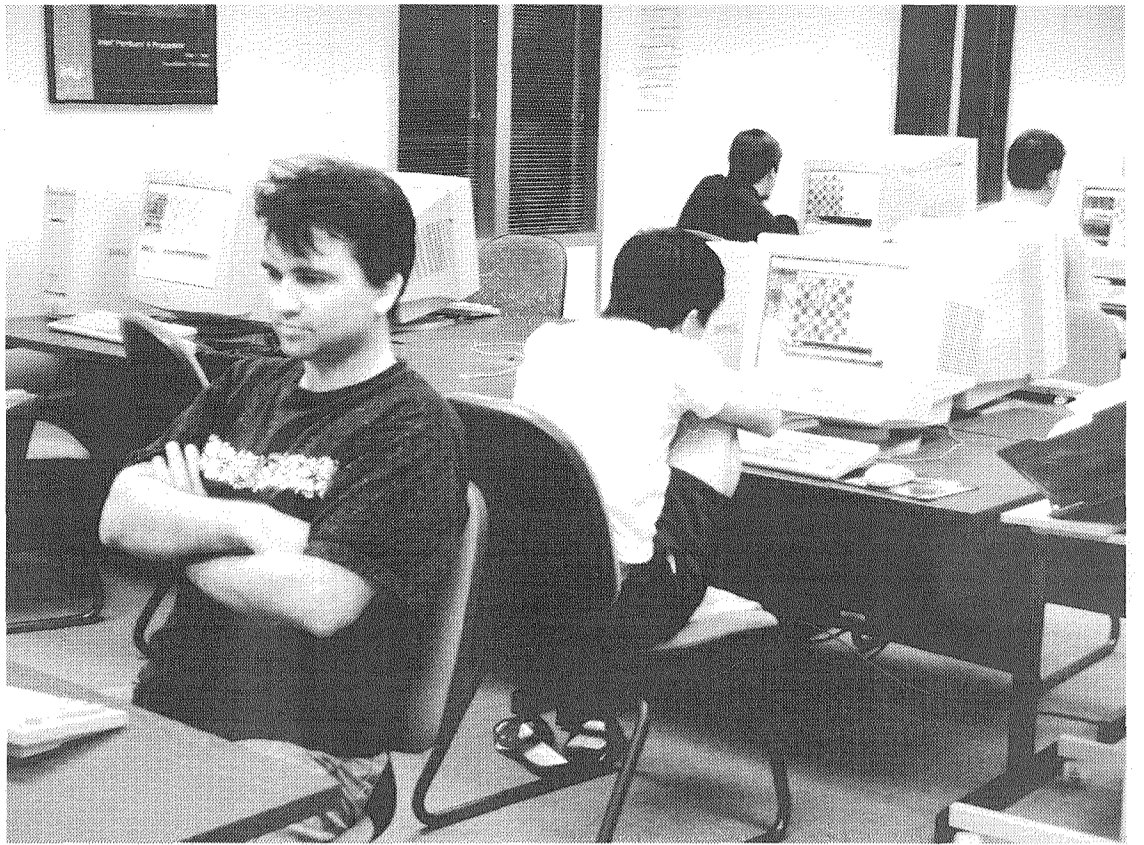
Specifically, the new system will allow for on-line course browsing and selection, including enrollment verification checks, with appropriate alerts on student status, schedule conflicts, course underloading and overloading, duplicate enrollment, space restrictions, etc. Faculty advisers will be able to review and approve advisees' schedules on line; an email alert, with a link to the application login page, will be sent when an advisee is ready to have a schedule approved. Modification of individual course grade schemes and variable units, will be done on line as well.

The web enrollment period will replace the existing mail registra-

tion period; there have been no changes to current Institute policies that pertain to the enrollment process. The enrollment period will begin on February 26th [the day after Drop Day] at 8:00 A.M. and continue until 5:00 P.M. on March 10th [two weeks later]. During the enrollment period, students may add and drop courses freely, and advisers will review and approve schedules to complete the student's enrollment. By the end of the web enrollment period, all students must have an approved schedule in the system.

A Caltech email account is necessary to utilize this new web-based service. Further information on REGIS, including login information and FAQs, will be available at the Registrar's Office web site [<http://www.registrar.caltech.edu>]. The Office of the Registrar can be reached at x8866 or at [regis@caltech.edu](mailto:regis@caltech.edu).

The Student Affairs Division, Office of the Registrar, and ATC solicit your suggestions for enhancing web enrollment and other student services as we move forward to utilize technology to provide better service to the Caltech community. Comments can be provided via our electronic suggestion box at: [http://www.registrar.caltech.edu/regis\\_feedback.htm](http://www.registrar.caltech.edu/regis_feedback.htm).



D. Kortz/The California Tech

The Caltech Chess Team hopes to win its second Amateur Championship in as many years. The matches will be played online, similar to last year's match against MIT.

## Chess Team on Track for Second National Amateur Title Victory

By WEI JI MA

Continuing its series of successes, the Caltech Chess Team has again defeated top-ranked teams to win the western regional US Amateur Team Chess Championship. The win represents the second time in the team's two year history that Caltech has won the event.

The winning team consisted of players Patrick Hummel '06 (captain), Eugene Yanayt '06, Graham Free '04, and Zhihao (Howard) Liu '06. The Caltech team dominated the event from start to finish,

winning all six matches for a rare perfect score.

By winning the tournament, the Caltech team has earned the right to represent the west in the national championship, to be held on March 14. There they will face the respective winners of the southern, midwestern, and eastern regional competitions in a knock-out-style event to be held on the US Chess Federation's Internet server. A win would make the Caltech team the first team ever to win the national championship two years in a row. The legendary US Amateur Team Champi-

onships are high-profile events and count as the most prestigious among amateur tournaments. They are not only open to college teams, but to any team of four chess players.

The Caltech Chess Team is composed of members of the Caltech Chess Club. The club meets on Friday nights in Page to play casual games and prepare for tournaments. More information, including games from the event, can be found on [www.its.caltech.edu/~citchess](http://www.its.caltech.edu/~citchess).



Courtesy of pr.caltech.edu

The three witches tempt Macbeth during a rehearsal for the TAC-IT production, which opened on Friday.

## Macbeth Actors Make Unique Touches Fit In

Continued from Page 1, Column 2

ting both on Lady Macbeth and on Lady Macduff (Valerie Syverson '07), who for some reason also shows up at Macbeth's castle with her numerous kids.

Macduff and his wife also seem quite into each other and while they have no onstage love scene, his grief on learning of their deaths is violent enough. With Malcolm's help, he turns this grief into a murderous rage and as the English armies march to Dunsinane we are treated to several scenes of marching soldiers receiving encouragement from the Thanes, ending in a manly "Arr!" Macbeth's testosterone, at the same time, seems to have left him. His wife dead, he is a shadow of the former man, giving sad, philosophical speeches to the audience instead of properly preparing for the upcoming fight.

The final fight scene between Macbeth and Macduff is very posed, even for theater. As Macbeth and Macduff clang swords for a good five minutes, losing and regaining weapons, the assembled thanes beat their spears against the grounds faster and faster, until Macduff triumphantly slits Macbeth's throat. However, here's the funny thing: it works.

Yes, this year's *Macbeth* is an overall great success. Like all of director Shirley Marneus's plays, it is technically almost perfect. And as for her interpretation of the play, it did not agree with mine, but she sold it well. To the end, the play was focused and consistent and it was a pleasure to watch. So if you haven't seen it yet, go.

I, meanwhile, will be working on my roar.

## Burmese Activist to Speak About New Struggles for Human Rights

By D. WILLIAMS-HEDGES

PASADENA, Calif.-Noted Burmese activist Ka Hsaw Wa will come to Caltech to present the second address in the 2003-04 season of the Social Activism Speaker Series at the California Institute of Technology. He will discuss new strategies in the global fight for human rights. This event will take place at 8 p.m. on Wednesday, February 25 in the Beckman Institute Auditorium, located on the Caltech campus. It is free and open to the public.

As a member of the Karen ethnic nationality in Burma, Ka Hsaw Wa has been imprisoned and tortured for leading protests calling for human rights and democracy in the face of a restrictive Burmese regime. After fleeing the

country, he has returned many times clandestinely to document human rights abuses against his own people.

In 1995, he joined two American lawyers to found EarthRights International (ERI), an organization that has applied innovative strategies in the defense of human rights and environmental protection worldwide. ERI also works to empower indigenous peoples, helping them regain control over their natural resources. For such work, Ka Hsaw Wa has been honored with several awards, including the Goldman Environmental Prize and the Reebok Human Rights Award.

This is the fifth year for the Social Activism Speaker Series, which focuses attention on current social and political issues

by inviting prominent activists to share their experiences and perspectives with the Caltech community and the public. This series is coordinated with the help of the Caltech Y, and is made possible by contributions from the Moore-Hufstедler Fund, Student Affairs, the Alumni Association, Campus Life, the Diversity Program Fund, the Graduate Student Council, Jack and Edith Roberts, and the Associated Students of Caltech.

The Beckman Institute Auditorium is located on the west side of the Caltech campus. Parking is available in the lots south of Del Mar Boulevard between Wilson and Chester Avenues, and in the Wilson Avenue parking structures between San Pasqual Street and Del Mar Boulevard.

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