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 frustration, 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.

“Is it all about career exploration, who am I, what can I do, how do I get there,” said Career Development Center Director Jerry House.

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-Hufstedler foundation, 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 House.

House also 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, House 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,” House said. “It’s almost like a marriage. The relationship has to have enough compatibility.”

From the conference, House 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 networking.
Students Learn Skills Needed to be Leaders

联网 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.

In addition to 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, which is held on April 28. C. A. Brown from a joint idea between 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 include students such as Tom Finner, 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 be responsible for making the world a better place, but they will also have leadership experience,” Houser said.

Parkinson’s Treatment Research by Amgen

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.

Continued From Page 1, Column 5
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 both the before and after effects 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 number of the audience asked what was most important to the survival of Amgen as a start-up.

In response, Fenton highlighted 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 Perlman, Amgen’s Executive Vice President of Research and Development.

The California Tech

The Tech is published weekly except during vacations and examination periods by the Associated Students of the California Institute of Technology. The opinions expressed herein are strictly those of the authors and do not reflect the official position of the institution.

The Tech welcomes well-written and organized letters to the editor. Letters may be edited for length and clarity. Letters should not exceed 200 words. The Tech reserves the right to edit and abridge all submissions for space reasons. All letters must be signed and will be published with the author’s name, by Friday of the week before publication. Letters should be directed to: The California Tech, 158-99, California Institute of Technology, 1200 East California Boulevard, Pasadena, CA 91125; phone: (626) 395-6154; or via e-mail: tech@tech.caltech.edu.

VOLUME CV, NUMBER 17

Thursday, February 6, 2004

Matthew H Walker Circulation Director
Melinda Delagon Advertising Manager

Tear Sheets

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 Perlman, Amgen’s Executive Vice President of Research and Development.

So far we only have 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 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 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 fringes of the solar system is further evidence that objects 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.

“By the time it is worthwhile to uncover new information about the planetoid, which they will release later in the year,” Brown adds. Other telescopes will also be used to better characterize the planetoid’s features.

“Increases odds for larger find,” 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 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 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 fringes of the solar system is further evidence that objects 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.

“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 pass as 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, Diekman 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. Diekman 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, Diekman 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.
On the Waterfront is a Contenda for Best Ever

By HARRISON STEIN

Now that Valentine’s Day has come and gone, we can flash back to the movie The Godfather, released in 1972, which has become a classic of American cinema. The film, directed by Francis Ford Coppola, tells the story of a man named Michael Corleone, played by Marlon Brando, who rises to power in the organized crime world.

The film is known for its powerful performances, particularly by Brando, who was nominated for an Academy Award for Best Actor for his role as Corleone. The film also features other notable performances, including Al Pacino as Michael’s brother Sonny, James Caan as Michael’s younger brother Fredo, and Diane Keaton as Michael’s wife Kay. The film is known for its intense atmosphere, complex characters, and powerful storytelling. It is considered one of the greatest films of all time and has had a lasting impact on the film industry.

On the Waterfront

The 1954 Marlon Brando mob film On the Waterfront is worthy of 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 speak out for the benefit of his country, the following injustice is seen in the picture. Brando is a real life rat as he helped blacklist a host of Hollywood ‘scab millers’ in 1952. Because Hollywood turned on him (and many stars still didn’t forgive him at the time of his death), Brando made On the Waterfront as an allegory for his own experiences. On the Waterfront is the greatest pictures ever made but unfortunately, it will always be known as the film Elia Kazan used to justify his own questionable actions.

Finally, the film’s artistic value is inapplicable. In addition to being the premiere hit of the 1950’s, On the Waterfront launched a new generation of film directors, led by Elia Kazan. The films of this time and Marlon Brando delivers a performance that turns Malloy from a lightweight character into a heavyweight champion. Pitta’s fight to carry that on the Waterfront faces much more than a heavyweight champion.

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

By PARAG BHATIYAN

After its 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 do its own thing. Such behavior would have never been allowed by Congress or the public if the Clinton administration had been in power. The public would have been shocked and outraged by the gross behavior. But such behavior would have never been allowed by Congress or the public if the Bush administration had been in power. The public would have been shocked and outraged by the gross behavior.

On the other hand, 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 do its own thing. Such behavior would have never been allowed by Congress or the public if the Clinton administration had been in power. The public would have been shocked and outraged by the gross behavior. But such behavior would have never been allowed by Congress or the public if the Bush administration had been in power. The public would have been shocked and outraged by the gross behavior.

The 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 do its own thing. Such behavior would have never been allowed by Congress or the public if the Clinton administration had been in power. The public would have been shocked and outraged by the gross behavior. But such behavior would have never been allowed by Congress or the public if the Bush administration had been in power. The public would have been shocked and outraged by the gross behavior.

Former New Jersey Governor Thomas Kean was appointed to take his spot. The Bush administration would issue orders and condemnations and cooperate with the panel, but the court decided to prevent these actions. The former New Jersey Governor Thomas Kean was appointed to take his spot. The Bush administration would issue orders and condemnations and cooperate with the panel, but the court decided to prevent these actions.

The Godfather Trilogy

THE CALIFORNIA TECH

COMMENTARY

February 23, 2004

www.moderntimes.com

The Godfather Trilogy, to be released this August, is easily the most anticipated film of the year. The film is a continuation of the story of the Corleone family, led by Don Corleone, played by Marlon Brando. The film is known for its powerful performances, particularly by Brando, who was nominated for an Academy Award for Best Actor for his role as Don Corleone. The film is considered one of the greatest films of all time and has had a lasting impact on the film industry. The film is expected to be a commercial and critical success, with many film critics already predicting it as one of the best films of the year.
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 GSCI/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.” Elizabeth Warren reminds us, “Since there do appear to be relatively few tenured women in even humanistic disciplines in which women have been excluded from doing serious science for many decades, it appears that the presence of men at the top must be the result of factors beyond the number of women endowed with talent.”

Indeed, the “leaky pipeline” metaphor has been discussed: the data show a loss of women at each stage along the educational pipeline, from the educational system and the school, graduate school to postdoc to junior faculty and so on (see http://www.cwcl.berkeley.edu/survey/reports/leaky-pipeline.pdf). The result is that a host of disturbing numbers contained in the report (for example, the astounding statistic of our women graduate students who 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 academic evaluations (e.g., demeaning language (e.g., unwanted teasing, inappropriate grades or grades marking students including email); and 4) exposure to offensive material (e.g., posters, magazines, online games). This is the majority of our women graduate students. This is terrible. And there are terrible, logical, consequences. Students who have been hassared are significantly less likely to feel supported by the campus (junior faculty and significantly less likely to feel supported by the campus (positions, promotions, failures, etc.)).

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

<table>
<thead>
<tr>
<th>Category</th>
<th>Undergraduate</th>
<th>Graduate</th>
<th>Postdoc</th>
<th>Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology</td>
<td>55.3</td>
<td>24.2</td>
<td>17.2</td>
<td>20.7</td>
</tr>
<tr>
<td>Chemistry</td>
<td>18.6</td>
<td>14.8</td>
<td>8.4</td>
<td>10.4</td>
</tr>
<tr>
<td>Mathematics</td>
<td>39.2</td>
<td>23.2</td>
<td>17.0</td>
<td>10.4</td>
</tr>
</tbody>
</table>

[By Mariissa Mock]

Female and male responses to questions about the experience of various negative behaviors based on gender, from the 2003 GSCI/WEST Survey of the Caltech 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.”

4. It is the subconscious manifestation of a cultural stereotype. Stereotyping is an important intellectual exercise to make quick decisions based on previous experience. It becomes a problem when “stereotyping” is treated as group membership that group members who possess a given set of traits other than gender are not able to be judged on their own merits” (D. Rosenfeld and Marissa Mock). The results are that women are not as intelligent as men are, and, unfortunately, having a different gender makes the impression more critical, so we have to be harder to dispel than other aspects (e.g., reading, writing, math, science). I believe that women of Caltech to allow this cultural bias to influence our behavior must be the result of factors beyond the number of women endowed with talent.

To me, the final possibility rings most true, even though in some cases, people are certainly acting out, answering how we do battle a subconscious behavior that many of the above listed examples, even if not first, is terribly, terribly difficult to dispel.

The Leaky Pipeline: It is not fair to the

Dear Mr. President,

I am writing to express a concern I have with the apparent lack of gender diversity in the Division of Chemistry and Chemical Engineering. I have been around this department for a while, but I have noticed a worrying trend of few women being admitted into the program. This department has traditionally been dominated by men, and it is concerning to see such a disparity. I wanted to bring this issue to your attention and see if there is anything we can do to improve the situation.

Sincerely,

[Your Name]
By LYLE CHAMBERLAIN

Some friends and I went to the Vagina Monologues on Valentine’s 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 walked into a lobby filled with pamphlets screaming “you’re gonna get raped in 20 different ways! You can’t be TOOPURitan! Stand up and listen to two things: women get raped or abused by men, and women being healed by women (lesbian pedophiles, “sex workers,” or masturbators).”

Despite my trepidation and nearby friends, I cried during the section about rape, deformations, and acid burning in the Middle East. I was shocked by the horrid crimes committed against hundreds of women in Mexico with no legal retaliation. I felt ashamed for the little girl who was raped by her father’s drunk friend at a party. “Should we do this?” 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 neighbor woman in East. I was shocked by the心底. 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 neighbor woman in East. I was shocked by the心底. 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 neighbor woman in East. I was shocked by the心底. 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 neighbor woman in East. I was shocked by the心底. 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 neighbor woman in East. I was shocked by the心底. 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 neighbor woman in East. I was shocked by the心底. 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 neighbor woman in East. I was shocked by the心底. 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 neighbor woman in East. I was shocked by the心底. Though I was dazzled by the excellent production, I was disappointed by the answer.
Dear Mister Sir,
I’m just way too popular—all the ladies love me. I mean, they always knock on their door to 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

Dear Mister Sir,
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 can I do?
-Worried About Diseases

Dear Mister Sir,
I keep falling behind on my homework. I mean, the physics homework is due 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.

Sincerely, Mister Sir

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 Dubney

Dear Mister Sir,
I’m afraid of a hunk like you, and don’t know what to do when you’re around. I would suggest that you be gone your real deal.

Sincerely, Mister Sir

Dear Mister Sir,
You’re probably a loser, but how can I get in the know about the one girl I don’t want to glom, and the other one?
-Dreamy

Sincerely, Mister Sir

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

Sincerely, Mister Sir

Dear Mister Sir,
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,
I'm 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 I’m too slow. Can I report this to the BOC as an honor code violation?
-Black Biker

Dear Mister Sir,
What the hell are you talking about? Are you 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.
-Black Biker

Sincerely, Mister Sir

Dear Mister Sir,
A bear a 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 Mister Sir,
I’m 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 I’m too slow. Can I report this to the BOC as an honor code violation?

Sincerely, Mister Sir

Dear Mister Sir,
I am an athlete 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 Mister Sir,
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. I don’t worry about it. There are lots of fine ladies here, so just find another one.

Sincerely, Mister Sir

Dear Mister Sir,
I love cats. A lot.

Sincerely, Mister Sir

Dear Mister Sir,
I love cats. A lot.

Sincerely, Mister Sir

Dear Mister Sir,
I’m a headsick 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 Mister Sir,
I’m 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 I’m too slow. Can I report this to the BOC as an honor code violation?

-Sleepless in Sadena

Dear Mister Sir,
I’m 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 Mister Sir,
I’m 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
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 astrophysicists using the Keck and Hubble telescopes.

The object, a galaxy behind the Abell 2218 cluster, has a redshift of 7.0. The wavelength of light from the galaxy would have left when the universe was just 750 million years old. The redshift is so great that the wavelength of light is 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 indicates 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 stars similar in appearance and color indicated a very distant object," said Knief. "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 of Abell 2218's gigantic gravitational field on light passing by it. As a consequence of Einstein's theory of relativity, light is bent away from the direction it would be in the absence of gravity. It is predictable only as a result of 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," Knief 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—by forming stars at an extremely high rate. An intriguing property of the new galaxy is the apparent lack of the typical 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 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 Caltech team reporting on the discovery consists of Knief, Ellis, Santos, and Johan Richard. Knief and Richard are also affiliated with the Observatoire Midi-Pyrenees of Toulouse, France. Santos is also at the Institute of Astronomy, in Cambridge, England. 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 and the University of California, and NASA. For more information, visit the observatory online at www.keckobservatory.org.
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 (2004) 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 and individual course restrictions, etc. Faculty advisers will be able to review and approve advisers’ 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 registration period; there have been no changes to current Institute polices 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 63866 or at 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.

The final fight scene between Macbeth and Macduff is portray a most rigorous and scholarly as English military march to Dunsinane we are treated to several scenes of marching soldiers receiving orders for their unit from the Thanes, ending in a manly “Art!” Macbeth’s testosteron, 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.

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 Zhilao (Howard) Liu ’06. The Caltech team dominated the event from start to finish, winning all six matches for a rare perfect score.

By D. WILLIAMS-HEDGES

Pasadena, Calif.—Noted Burmese activist Ka Hswa Wu 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 Hswa Wu has been imprisoned and tortured for leading protests calling for human rights and democracy in the face of a repressive 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 Hswa Wu 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 discuss 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-Hulstefde 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.