

The California Tech

VOLUME CII, NUMBER 22

PASADENA, CALIFORNIA

APRIL 13, 2001

GOLDWATER SCHOLARSHIPS AWARDED

FROM THE DEAN'S OFFICE

Agedi Boto, Paul Choi, Betty Hong, and Benjamin B. Mathews have been awarded Barry M. Goldwater Scholarships. Agedi is a junior majoring in Chemical Engineering, Paul is a sophomore majoring in Chemistry, Betty is a junior in Biology, and Ben is a sophomore in Physics.

The Barry M. Goldwater Scholarship and Excellence in Education Foundation awarded 302 scholarships for the 2001-2002 academic year to undergraduate sophomores and juniors from all fifty states, the District of Columbia, Puerto Rico, and the United States Territories.

The Goldwater Scholars were selected on the basis of academic merit from a field of more than 1,100 mathematics, natural sciences, and engineering students who were nominated by the faculties of colleges and universities nationwide.

The Scholarship Program honoring Senator Barry M. Goldwater was designed to foster and encourage outstanding students to pursue careers in the fields of mathematics, the natural sciences, and engineering. The Goldwater Scholarship is the premier undergraduate award of its type in these fields.

The Foundation, in its thirteen year history, has awarded 3,323 scholarships worth approx. thirty-three million dollars. The Trustees plan to award about three hundred scholarships for the 2002-2003 academic year.

En-CURJ-ing new entry into undergraduate research journals

BY JON FOSTER

CURJ, the Caltech Undergraduate Research Journal, arrived in student's mailboxes Wed. The event marks the first time that Caltech has had a student-run journal focusing on undergraduate research.

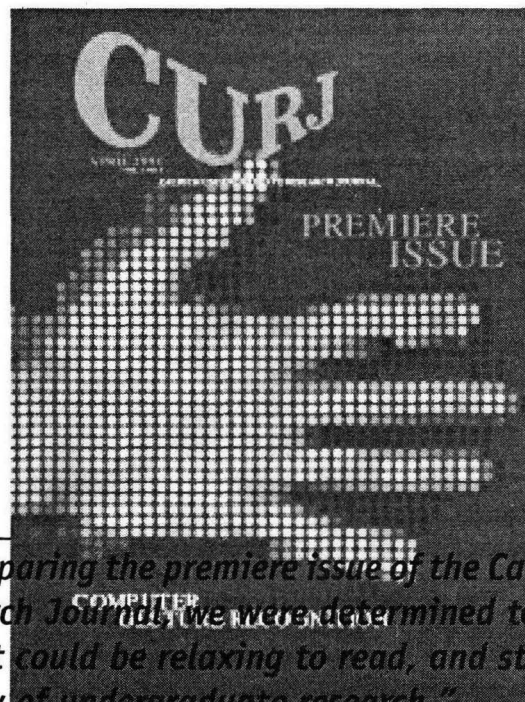
The premiere issue features a stunning cover design inspired by an article on hand gesture recognition by computers. The entire edition is 54 pages long, and features two review articles (one on tissue engineering, and the other on a neuroscientist's approach to consciousness), five research articles (mostly SURF projects), and one piece of artwork.

The breadth of disciplines covered is quite impressive, from Computer Science, to Biomedical Engineering, to Applied Physics. Although primarily a Caltech journal, CURJ has important links to other universities. The actual process of production was a collaborative effort between students here at Caltech and at the nearby Art Center College of Design in Pasadena.

Additionally, one of the research articles was contributed by a student from UCLA, and submissions to CURJ are open to all undergraduates at educational institutions. CURJ has also entered into a collaborative effort with MURJ (MIT's undergraduate research journal) to promote both publications together.

As part of this effort, copies of this issue of CURJ are being made available to MIT students, and Caltech will receive copies of the next issue of MURJ.

In conjunction with the print edition, the web development team unveiled the CURJ website on Mon. (<http://www.curj.caltech.edu>). The website not only contains information about joining the CURJ team or contributing articles, but also contains the entire journal in both PDF and HTML format, for those who would rather stare



COVER DESIGN BY ANIKO HULLNER GRAU, ART CENTER COLLEGE OF DESIGN, CURJ ART DIRECTOR

on the success of the first issue and turn the journal into something invaluable for undergraduates across the country.

The next issue is scheduled for release in the fall, and until then the CURJ team will be streamlining the guidelines

"While preparing the premiere issue of the Caltech Undergraduate Research Journal, we were determined to create a composition that could be relaxing to read, and still offer the highest quality of undergraduate research."

-From the Editor

at a monitor than savor the feel genuine wood-pulp.

The journal seems to have been well received by the students. "I'm interested in biology," explained one student, "and it was nice to see so much cutting-edge research by my peers."

The question facing CURJ now is whether they can build

for submission and recruiting new staff members to make sure that CURJ remains in good hands (whether a computer could recognize those hands or not).

For more information or to join the staff of CURJ, please visit: www.curj.caltech.edu

Biology professor receives Wolf Foundation prize

BY WILLIAM FONG

Recently, Professor Alexander Varshavsky, the Smits Professor of Cell Biology at Caltech, was named the co-recipient of the 2001 Wolf Foundation Prize in Medicine. Varshavsky shares this honor with Avram Hershko of the Technion - Israel Institute of Technology. The prize includes a \$100,000 honorarium that will be shared between the recipients. The Wolf Foundation Prize was established in 1978 to promote science and art for the benefit of mankind.

The award-winning area of research was the discovery of the ubiquitin system of intracellular protein degradation and

the crucial functions of this system in cellular regulation. The first evidence about this system was discovered in 1978-1980 by Hershko in Israel, who carried out biochemical experiments with extracts from rabbit cells. In 1981-1984, the complementary genetic and biochemical experiments carried out with mouse cells by Varshavsky and his colleagues produced the first evidence that ubiquitin conjugation was essential for protein turnover in living cells. Further molecular genetic studies by Varshavsky, carried out with baker's yeast, discovered the first physiological functions of ubiquitin-dependent protein degradation.

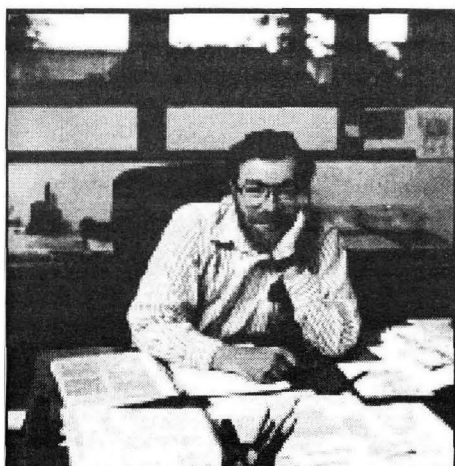
The ubiquitin system works by having the ubiquitin protein attach to other proteins, marking them for degradation by pro-

teases. The work by Varshavsky, and subsequent studies by others, have shown that ubiquitin plays a role in a broad range of biological processes, including cell growth and division, DNA repair, responses to stress, the functioning of the brain, the development of most organs, and the regulation of general metabolism. However, when the ubiquitin system does not function correctly, the cell's mecha-

nisms go awry, causing many diseases including cancer, bacterial and viral infections, and neurodegenerative syndromes.

The development of the ubiquitin system and its role in all cells except bacteria by Hershko and Varshavsky has opened a new route for developing drugs to combat diseases. Varshavsky believes that the

PLEASE SEE WOLF ON PAGE 2



Alexander Varshavsky, the Smits professor of Cell Biology, was recently awarded the Wolf Foundation Prize

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We apologize for the delay in last weeks paper; our printer's press broke down and hence the paper was not printed on time.

NEWS

A.S.C.I.T.
Minutes

APRIL 6, 2001

Present: BoD. Guests: Kenny Higa and Zack Medin (run, Forrest, run); Derek Shannon, Zane Crawford, Nathan Brown, and Serena Diniega on behalf of Yuri; Eric Tuttle(The Ex); Erik Dill (www.where^Os the big T.org); Sarah Cooke(newly crowned Movies Chair)

First meeting of the new term convenes sometime before I got there, circa 11:06 pm.

Guests:

Neither Kenny nor Zack had any places to sit, so rather than make them wait, which we would have done had no other guests been there to act as witnesses, we decided to hear their cause first. They are organizing KELROF for this year, and need a total of \$800 for a trainer, renting out the track, advertising, T-shirts, and food and beverage essentials. The 24-hour event of jogging fun usually gets funding from ASCIT, the Y, and the Deans' Office so their \$500 request from ASCIT is a bit idealistic. Yes, we agree. They leave so that we can greet the other guests and talk behind their backs.

Derek Shannon, not mentioning his affiliation with the Mars Society, states that the Mars Society will be showing 2001: A Space Odyssey on Saturday Night as an advertisement for Yuri's Night. The Yuri's Night event is Thursday, April 12th at the Hollywood Palace and will be web-broadcasted. The event marks the 40th anniversary of the first human in space. The GSC gave the organizing committee \$1000 to allow graduate students to enter the event for free, at the expense of not having a GUSH event. The graduate students will have a free bus, but undergrads will not be able to board it because of potential liabilities (drinking at the party and such). The organizing committee is requesting \$500 from ASCIT to subsidize undergradu-

ates to enter for free (instead of the \$10 entry cost) and to defray the cost of web-broadcasting. Details and a sign-up list for undergraduates will be available later in the week.

Sarah Cooke, the new Movies Chairman, is planning on showing a movie in Baxter for Pre-frosh weekend. An outdoor movie showing would be a potential conflict with house activities. She will have a flier available for the pre-frosh packets as a form of advertising.

The Big T is still in the gutter. According to Erik Dill, portions of the yearbook were never received by the publisher. There's a foggy idea of what is missing, but given the tardiness of publishing already, there's a resolution to have half of the book unpublished, or half of the book published depending on your perspective. On another note, the editor of this year's Big T resigned, leaving the position open. In the next two weeks, a template needs to be composed, designating standard font and room for page numbers, etc. The info will be sent immediately to seniors, followed by notification of the clubs and advertisers. Eric Tuttle offers himself to slave away on the Big T, although the BoD would like the positions to be opened up to the rest of the campus also.

General Meeting

A survey polling students about their opinions regarding various clubs will be available on the donut website in light of the budget meeting April 13th. That means that if you really hate a club, you can log on x number of times and trash them. Just use different wording so that we can't tell repeat offenders. Bad publicity equals fewer clubs we need to delegate funds to and more money for strawberry donuts.

Ted gives a short blurb about upcoming social events. A contract with the Ritz-Carlton in Marina Del Rey was signed for the formal. The GSC has allocated up to \$2000 for the event, with demands that the name be changed to "ASCIT-GSC formal," and that we help secure a bus to the event. A bus to the for-

mal?? Pre-frosh weekend planning is coming along nicely. A lot of clubs are planning events and the houses are agreeing to offer services as well--namely, manning the cotton candy, popcorn stands. The carnival will take place from 2-6 pm in the amorphous area in front of Winnett. A list of prospective dunk tank victims is being developed and we hope that Dean Revel and Chris Brennen will consent.

Martha-Helene has some information regarding alumni affairs. The Alumni Association would like to proceed with the shadowing program, adding a checkbox on the questionnaires to companies recruiting on campus about whether or not they would offer such a program. The Alumni Association also awarded honorary alumni status to Thomas Apostol, Webb Emery (a former water polo coach) and Suzette Cummings. The Alumni weekend is May 17th, but they will provide additional funds to houses that are organizing elaborate reunions.

Arc-Rep-at-Large signups will be posted beginning on Friday. And I hope this time people don't write phony aliases and send the ARC secretary on a witch-hunt to determine if so-and-so exists. I'm not bitter.

Ted happened to have a meeting with Bill Bing from the Music program. He would like to use the ASCIT lights for a program and is willing to pay us big bucks. In light of Ditch Day, Ted has received a request not to sell the ASCIT van until a certain day in May. I mean, not to sell it until tomorrow.

ASCIT doors closes doors to discuss Martha-Helene's potential appointments to her executive committee. Very hush-hush.

Decisions concerning the groups that asked for money today: KELROF will receive \$300, and Yuri's Night Party will receive \$500 provided that they do massive advertising to get as many undergrads to attend as possible.

Meeting adjourned, thank goodness, at 1:34 am.

Self-proclaimed,
Dull writer

NEW GRANT
FURTHERS BRAIN
RESEARCH

BY ROBERT LI

Caltech's Sloan-Schwartz Center for Theoretical Neurobiology received a \$400,000 grant from the Alfred P. Sloan Foundation. This grant is intended to make possible further research in the developing field of theoretical neurobiology.

In 1994, the Center for Theoretical Neurobiology was established at Caltech thanks to an \$1.4 million grant from the Sloan Foundation. In the same year, sister Centers for Theoretical Neurobiology were established at Brandeis University, New York University, the Salk Institute, and UCSF. The mission of the Center for Theoretical Neurobiology is to both explore the field of theoretical neurobiology and to train future neurobiologists.

Theoretical neurobiology is a multi-disciplinary field combining both experimental and theoretical investigations into the brain and into the nervous systems of humans and other animals. This field requires knowledge from numerous diverse disciplines.

Some highlights of the research being performed at the Center for Theoretical Neurobiology include research in temporal coding, neural representations of sensory data, and the neural mechanism of sight.

WOLF

CONTINUED FROM PAGE 1

ubiquitin research over the last two decades will have an impact on the tools available for the next generation of physicians. He says that ultimately it will be through the efforts by pharmaceutical companies to develop drugs that target specific components of the ubiquitin system.

When asked about his future research plans, Varshavsky replied that he will be continuing his studies in this exciting field.

WOMEN'S CENTER
SEEKS NEW
DIRECTOR

Caltech is currently conducting a nationwide search for a new director of the Women's Center on campus. Provost Steve Koonin appointed Dr. Melany Hunt and Dr. Sharyn Slavin Miller as co-chairs. Dr. Hunt is an Associate Professor in Mechanical Engineering and Dr. Miller is Assistant Vice President for Student Affairs. A search committee was selected and has been meeting regularly. A new director will be in place by the beginning of the next academic year. Anyone interested can view the job description by going to www.caltech.edu and selecting job opportunities under "Quick Campus Links".

If you have any questions or comments, contact: Dr. Hunt can be reached at hunt@caltech.edu and Dr. Miller can be reached at sharyn@caltech.edu

THE CALIFORNIA TECH

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ISSN 0008-1582

VOLUME CII, NUMBER 1
SEPTEMBER 22, 2000

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DEADLINES

Advertising: 5 p.m. Monday
Announcements (Mints): noon Monday
Letters to the Editor: 6 p.m. Tuesday
Unsolicited Articles: noon Monday

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

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The Outside World

Soccer craze kills:

South Africa: Around forty people have been killed at a soccer game between the two biggest teams of South Africa. This was a result of a stampede, which began as a crowd tried to get into the Ellis Park stadium in an attempt to watch the Kaizer Chiefs meet the Orlando Pirates.

Tornadoes hit the Midwest:

Iowa: Two people were killed and several others injured as violent tornadoes spread across

the Midwest last Wed.

Spy plane returns safely:

Guam: The U.S. Navy spy plane has landed on the Pacific island of Guam on its way to Hawaii after being detained in China for eleven days. After colliding in mid-air with a Chinese fighter jet directed towards them, the plane staggered onto a Chinese air force base. The crew was held in custody. The whole incident led to an unfriendly confrontation between the U.S. and China but has now

been settled after the US apologized for having entered Chinese airspace without permission.

Cincinnati police accused:

Cincinnati, Ohio: On Wednesday night, a Cincinnati police officer was shot by protestors. For three nights Cincinnati has had protests over the shooting of an unarmed African American man by the police--the fifth African American killed by Cincinnati police in seven months.. The protestors went out of control,

looting shops, setting markets on fire, throwing rocks and bottles at the police, and attacking motorists.

British tourist industry in trouble:

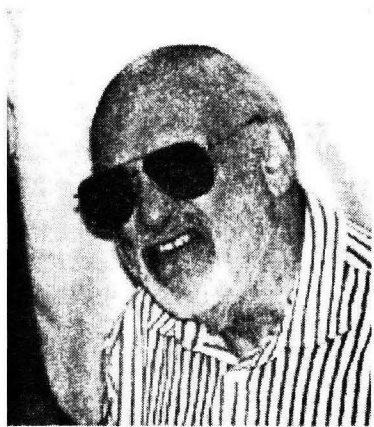
London, England:-Britain's profit churning tourist industry will most probably be facing a low profit this Easter and summer. This is the result of the foot-and-mouth epidemic, which has scared off international travelers and kept the Brits indoors.

DEAN

Dean's Corner

Paraphrasing Sam Johnson

by Jean-Paul Revel



In an article on cheating and education by Diana Walker and Melissa Kelly (1), they cite this statistic for 1993 assembled by Who's Who among American high school students "89% of high schoolers thought that cheating was common and 70% had cheated" That does sound like a horrible statistic, which bodes no good for college and beyond. To my best information, at least some high school students go to college, and eventually nearly everyone, college improved or not, ends up with a job or a profession. So it is unavoidable that some of the same people who cheated in high school wind up in real life placed in responsible situations.

One small relief is that a relatively smaller percentage of students who make it to college are cheaters (loc.cit.). Relatively smaller of course does not mean inconsiderable. A survey in 1990 indicated that 45% of college students cheated on one or two courses and 33% in 8 or more. Less than the percentage of cheaters in high school, but surely nothing to brag about!

It is rather astonishing and horrifying to imagine that among the future leaders of the nation, are people who may have gotten to their place of power and influence, not because of skills and knowledge acquired the hard way, but because they faked their way to their place. Think of it. Some of these people are judges, lawyers, doctors, bank officers, or clerks. Many will become parents, and will spread their virus by their attitudes, by what they teach, or don't teach, to their children.

While it is easy to dramatize how bad the situation is, it is in fact difficult to establish that youthful cheating necessarily means that because of it, many people are

unfit for their jobs. It may also be inappropriate to assume that, once people have tasted the fruits of cheating, they are wont to continue doing so. By the time they reach a responsible position it may well be that all these people have sworn off the kid stuff and are solid and trustworthy. As they mature they may well come to appreciate the harm they could cause by cheating, as well as the harm they could suffer through the cheating of others, and thus be egged on to stop the practice themselves.

But then again, is it possible that having found that their cheating was not discovered, students might continue on that path and end up lacking some of the basic skills that specific exercise (which they did not do) would have helped to nail. Worse yet, extensive cheating may well mean that they will have failed to learn how to learn, and so be handicapped for life.

Why would anyone cheat in school? Sometimes it is in response to parental pressures, to the belief that only a "little Einstein" (to borrow a phrase from our "Challenges and Choices" skit at Camp). Sometimes the pressure comes from within, a need to shine, to satisfy one's ego, one's vanity. Probably the main reason is to enhance one's grades, and so better one's chances to be accepted in prestigious programs, which may provide a smoother road to success for the rest of one's life, to maximize one's chance of being seen as appropriate fodder for medical, or other professional schools.

To start with it is a fallacy to imagine that grades are the uniquely important factor. Better to have good letters attesting to interest, intelligence, diligence, organizational skills, ability in the laboratory, agility of mind,

writing skills. Cheating in an attempt to look better than one really is, does not take into account that the lack of training in specific areas may well decrease the ability to perform at the prestigious school, and then in real life, with the result that, prestige notwithstanding, one's success may be limited.

The other reason for cheating is lack of time. For one of thousands of reasons, the student may not feel he has the time to do the work, or has not had the time to prepare adequately, and so turns to cheating as a time saver.

Again the lack of background will only compound the problem, as it will have consequences later slowing down things for the next homework, the next exam, that big project etc. If the lack of time is due to poor planning or procrastination, the same problem will of course recur, so, far better to attack it now. Losing a little more time and may be settling for a lower grade, may be a gain, because the understanding gained by doing the work will in the long run make it easier to stay ahead. And if the lack of time is caused by too much partying or other extracurricular stuff, the solution is clear. A choice, hopefully not too difficult a choice, must be made between partying and scholastics.

Samuel Johnson in "Lives of Poets" is quoted as saying

"whoever is wise is also honest" (2). Now to my shame, I must say I have never read the Lives, and so do not know the context of the quote. Taking the saying at face value however I agree wholeheartedly; it is wise indeed not to cheat, not to deprive oneself of a truly meaningful experience.

A bientot!

Jean-Paul Revel

1. (<http://7-12educators.about.com/education/7-12educators/library/weekly/aa010401a.htm>)

2. (<http://www.samueljohnson.com/honesty.html>)

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EGG DONOR REQUIRED

Couple seeks egg donor. Must be very attractive, have excellent health history. 18-28 years old, 5'5"-5'9". Preferences: R1500 SAT, athletic, brown hair. Compensation is \$25000. Email photos and scores to Nancykp9@aol.com.

FEATURE

You are what you eat

BY JIALAN WANG

America is a nation obsessed with food. Our relationship with food is truly an unhealthy one, consisting more of compulsive behavior than logical thinking. As the foot and mouth disease epidemic makes Europeans seriously reconsider their eating habits, it is about time for us to do the same.

Considering what our favorite foods are (there's a reason it's called "junk food"), it's no surprise we're fat, but as I have discovered, our food issues are a lot worse than we ever imagined. In addition to many investigative news reports, recent books *Fast Food Nation*, by Eric Schlosser, and *Slaughterhouse*, by Gail Eisnitz, reveal that unhealthful and horrific practices pervade every aspect of the food industry.

The facts have been out there, but unfortunately, most of us purposely ignore them. It is the "ignorance is bliss" principle at work. We enjoy our disposable products, our SUV's, and our junk food, and even though we believe in saving the environment, profess to care about the mistreatment of animals and workers, and attempt to take care of our bodies, we habitually sweep these issues under the carpets of our consciences. After all, thinking too much about them might be gross, might be shocking, or worse yet, it might force us to change our lives.

According to Schlosser and Eisnitz, many of the grossest horrors in food production appear to lie in the meat industry. Meat products, of course, start off as the familiar farm animals depicted in idyllic childhood stories. However, the "farms" that much of our meat comes from are far different from the rustic homesteads we would imagine, and the animals raised on them are not the affable creatures that would roam rural fields. In fact, Schlosser and Eisnitz have found evidence that industrial farms are more akin to medieval dungeons for the animals and the workers who work there. In order to save space, the animals are raised in very close quarters, often living out their entire lives without any chance to exercise. In addition, pigs and cattle are routinely fed the remains of animals purchased from animal shelters, not only forcing many herbivores eat low-grade food they were not designed to digest, but also increasing the risk of disease. In fact, the feeding of livestock remains (cattle and sheep) to the living livestock has been linked to the outbreak

and spread of both mad cow disease and foot and mouth disease, and this practice was only discontinued in the United States as of 1997.

The often-agonizing deaths of these animals only top off their lives of misery. For particularly strong-stomached readers, Eisnitz gives account after account from meat workers of animals being skinned, boiled, and dismembered alive as well as purposely tortured by factory workers, stories that will wrench the hearts of even the most avid meat eaters. As profit margins decrease and workers are pressured to work at faster rates, they have no choice but to sacrifice the civilized treatment of animals in order to keep their own jobs. I am not silly enough



to advocate freeing all animals or refraining from killing, but the cruel and atrocious acts that are inflicted on animals in these factories reflect a callousness and brutality towards life that is simply unconscionable.

Although I have strong feelings on this topic, most people aren't likely to get worked up over the mistreatment of livestock. Unfortunately, the food industry is inhumane to many human workers as well. Whether you are eating a hamburger or a pot roast, it is very likely that that meat was killed, skinned, and hacked apart by actual people – people who work in crowded and dangerous conditions. The meat industry is the most dangerous industry to work in, and employers knowingly increase the speed of slaughterhouse assembly lines at the expense of the safety of the workers and the sanitation of the food. In *Fast Food Nation* and in an article about the strawberry industry, Schlosser also presents evidence of food corporations taking extensive action to keep down employee salaries and benefits and to suppress unionization.

But enough of the guilt trip already, food is something we should be concerned about. Even if you don't care about the

mistreatment of animals or workers, you should at least care about what you're putting in your body. The facts, once again, are grim. According to Schlosser, due to the highly mixed composition of ground meat, a single diseased animal could contaminate thousands of servings, which greatly increases the spread of disease. Eisnitz provides many accounts from meat workers of feces and foreign articles being routinely mixed in with packaged meat, so even if you cook your meat and kill the bacteria, it is more than just meat you're eating! And of course we all know about the unsanitary conditions in the kitchens of fast food restaurants. As a result, national deaths from food borne illness had quadrupled in the 15 years before 1997.

And if you think the government is protecting against tainted food, think again. In both books, top government inspectors and low-level workers alike attest to the unsanitary conditions in meat plants, routine cover-ups by food companies, and laxness and ineffectiveness of inspectors.

It is not fair, however, to simply demonize the industry. In order to be competitive, companies must do whatever it takes to maximize profits, and the only way to change the industry is to make it illegal or unprofitable for companies to continue current practices. If we continue to ignore these issues, then no change will ever occur. Consumer pressure has prompted most of the nation's fast food chains to require their ingredients to maintain higher standards than the food we buy at the supermarket, and it can do the same for the food market in general.

In the end, though, none of this is really new. We don't want to hear any nasty facts that would ruin the enjoyment of our junk food, and billions of dollars of marketing maintain our desire for unhealthy food and keep us happy in our illusions, but the ignorance is killing us. Isn't it sad that in the richest, most technologically advanced country in the world, the foods we eat most – and indeed, have invented – are some of the lowest-quality foods hereto known to man?

Here at Caltech, we pride ourselves in our ability to think about high-minded subjects, but it's about time we thought a little more about what we eat – and maybe even do something about it.

Getting involved in society

Helping those in need

BY ALEX BACKER

Bravo to OASIS

It is easy to live in a bubble at Caltech. Our lives here are isolated from poverty (yeah, \$18k isn't much, but it still feeds you) and many other tragedies still common in the world in the 21st century. So when there is an opportunity to help out those who are in need, we should not hesitate to take part. A recent praiseworthy example was OASIS' drive to collect money for the victims of the Indian earthquake, which collected over \$14k from the Caltech community. If you have not yet contributed to that cause, you can still do so at www.redcross.org. You can also contribute to the victims of the El Salvador earthquake there.

Another worthy initiative in which you can participate daily and at no monetary cost to you is visiting www.thehungersite.com. Daily clicks contributed to advertising sponsors donating over \$3.4 million to feed the hungry in 2000. Sister sites include the Rainforest Site, the Kids AIDS Site, the Breast Cancer Site, the Child Survival Site and the Landmine Site. These are all linked from the Hunger Site.

A Modern Day Les Misérables

If you believe that opportunities to help out people in need are limited to faraway places, read the story of Ronnie Hawkins, three-strikes defendant who was shocked with a 50,000 volt stun belt for eight seconds to shut him up while he was representing himself in a case against him in 1998.

Perhaps more significant is the fact that Mr. Hawkins, an AIDS patient, is serving time in jail for 25 years to life for shoplifting slightly more than \$200 in painkillers. Hawkins had six prior felonies – four robberies, one attempted robbery and an assault with attempt to commit robbery. At least one involved a gun. These offenses apparently took place in 1971, 1978 and 1983. We're asked to overlook the youthful (and not so youthful) mistakes of powerful men,

but when it's the likes of Ronnie Hawkins, we're urged to throw away the key.

Forced to a life in prison for stealing a painkiller that more socially inclined nations might provide for free, Mr. Hawkins story is a painful reminder that the Victor Hugo's

Les Misérables, the tale of a man who's condemned to years of forced labor for stealing a loaf of bread for his sister's dying child, is not the longest-running Broadway musical for nothing – it deals with a theme that, centuries after it was written, is still pungently current.

How can you help out, you ask? By speaking out. To whom should you express your discontent (at the non-availability of painkillers for free, at the extent of the punishment, at stun belts, or what you wish)? One place to start out is with your representatives. Pasadena's representatives in the US Congress are:

Adam Schiff
Representative
35 S. Raymond Ave.
Suite 205
Pasadena, CA 91105
Phone: 626-304-2727

Boxer, Barbara (D)
senator@boxer.senate.gov

Feinstein, Dianne (D)
senator@feinstein.senate.gov

If you disagree about Mr. Hawkins' punishment being unjust, here's a less controversial local opportunity to help out: the Red Cross, located nearby on Lake St., is routinely seeking blood donors, and several members of the Caltech community donate their blood at regular intervals. You may call them at 626-799-0841 or email sgvarc@crossnet.org.

Next time we complain about our usual woes, let's remember we're not in such bad shape after all. And let's give a little.

BASEBALL TEAM REVIEW

BY SHANE ARNEY

In a season where wins are sparse, the players point to other parts highlights that have made the season worthwhile for them. "I really enjoy the camaraderie among the baseball team," says junior Brian Palmer. "I feel like all of us share a lot by facing the daily difficulties of being a student athlete at Caltech." Eric Peters, a freshman, echoes Palmer's opinion, saying "I enjoy spending time with my teammates through the good and bad times." Peters has experienced a particularly tough season as he was sidelined within

weeks of the start of the season with an elbow problem. He has just started throwing a baseball again since coming back from spring break.

Caltech has 7 games remaining on their schedule, including a game against Pasadena City College this Saturday. Bernat looks at the game optimistically. "I feel good about the game against PCC. I've been hitting the ball well recently. I'm just going to be take my cuts and remain positive." With attitudes like that, it's hard to not consider the season a success.

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DON'T FINISH THAT.

MM... MM... MM...

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LUCKILY, THEY WERE USELESS SPECIES WHO DID NOTHING BUT EAT AND GRUNT.

YOU'RE RUINING THE PRISTINE BEAUTY OF ELBONIA!

STOP DRILLING

THIS IS A PICTURE OF PRISTINE ELBONIA.

...AND THEN YOU SAID, "IT DOESN'T MATTER IF WE SEE IT FIRST." THEN I SAID...

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FoxTrot by Bill Amend

PETER, WHAT THE-?

I'VE ALWAYS WANTED TO SEE HOW I'D LOOK WITH A GOATEE.

SINCE I CAN'T ACTUALLY GROW ONE YET, I FIGURED I'D JUST TRY DRAWING ONE ON MY FACE WITH A PEN.

MAKES ME LOOK RATHER SOPHISTICATED, DON'T YOU THINK?

OK, BUT APART FROM THAT... MAYBE IF YOU HADN'T USED BLUE INK.

JA-SONNN!

BOY, DO I RECOGNIZE THAT LOOK.

PETER, LAUNDRY MARKERS ARE LIKE TOTALLY PERMANENT! WHERE ON EARTH WOULD YOU GET THE IDEA THAT THIS INK WASHES OFF??

YOU DREW THAT GOATEE ON YOUR FACE WITH A BLUE LAUNDRY MARKER?!

WELL, YEAH.

WE HAVE SCHOOL TOMORROW. I'M NOT GOING TO USE SOMETHING THAT DOESN'T WASH OFF EASILY.

YOU THINK THIS IS FUNNY?? YOU THINK TRICKING ME INTO USING PERMANENT BLUE INK TO DRAW A GOATEE ON MY FACE ON A SCHOOL NIGHT IS FUNNY???

JUST WAIT TILL I GO TELL MOM AND DAD! WE'LL SEE WHO'S LAUGHING THEN, PAL!

JUDGING BY YOUR FACE, MOVING OUT, I'D SAY MOM AND DAD.

PETER, COME BACK! WE WERE GUFFAWING WITH YOU!

AAAA! MY WHOLE FACE IS BLUE!

ORRR... MAYBE JUST SMEAR.

NO COMMENTS. JUST DO IT.

NOW, THEN, DRACULA OR FRANKENSTEIN?

I BORROWED SOME OF MOM'S MAKEUP. I'LL HAVE THAT BLUE INK HIDDEN IN NO TIME.

WAIT A SECOND! I DON'T WANT YOU DOING THIS!

THE ONLY MAKEUP JOBS YOU KNOW HOW TO DO ARE MONSTER FACES FOR HALLOWEEN. WHERE'S PAIGE? SHE KNOWS HOW TO PUT THIS STUFF ON PROPERLY.

HEH HEH... DARE I ASK HOW SCHOOL WENT?

LET'S JUST SAY YOU LUCKED-OUT BIG TIME.

WITH THIS STUPID BLUE INK ALL OVER MY FACE, THE GIRLS DECIDED I LOOKED LIKE LEONARDO DICAPRIO TOWARD THE END OF "TITANIC," WHILE THE GUYS THOUGHT I RESEMBLED SOME ALIEN BEING FROM "STAR TREK."

FORTUNATELY, BETWEEN THE TEASING ON ONE HAND, AND THE GOOGLY-EYED FAWNING ON THE OTHER, IT ALL KIND OF AVERAGED OUT OK.

ODD... I WAS UNDER THE IMPRESSION THAT GIRLS LIKED LEONARDO.

IT'S FUNNY. YOU AND I SHARE SO MANY GENES, AND YET...

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ENTERTAINMENT

Music to my ears...

By: Niky Morgan

THE GROUP: DAVE MATTHEWS BAND
THE ALBUM: EVERYDAY
THE SINGLE: "I Did It"

I'll admit that this is the first Dave Matthews album that I have purchased, and I regret that for several reasons. First, I regret not finding his music sooner. His work is refreshing compared to most music today.

When I think of artists who have a distinct sound throughout all their work, I think of artists whose songs all sound identical. (Aerosmith immediately springs to mind.) In stark contrast, *Dave Matthews Band* is one group who can maintain a constant sound without limiting the creativity of their songwriting.

Though each song may share many common features, each song is dramatically different.

Second, I regret that my first extended experience

with Dave Matthews was this album. This album is not some of his better work, but that shouldn't deter any first-time listeners from seeking out his other works.

With "Everyday," Matthews has done what every modern artist claims to do with new albums: he took his music to the next level. Invariably, artists describe this musical utopia in interviews about their recent work. The one distinguishing characteristic of this "next level" is the fact that it is completely different from the previous level; it is "edgier" and "more real". Dave Matthews is one of the few artists who actually located this different plane which, until now, was thought to be en-

tirely theoretical.

One quality that I previously associated with Matthews' music was a lilting, lullaby quality. Even the more energetic songs seemed to float. The songs took a more relaxed route to involving the audience. Some artists try to sweep their audience over with emotions and power-chords. Instead of taking the cheap and easy route of infectious pop melodies, Matthews writes music that grows on the listener. The attachment to his songs does not always develop immediately, but it is stronger for that. His music is mature; it contains many nuances. Rarely do modern songs stray from the verse/chorus/bridge pattern of music, but Matthews' music abounds with musical interludes.

Though the Dave Matthews Band has found this next level of hard, edgy rock, I hope they lose it again. I do not think the progression towards a more polished studio rock is an improvement for this group.

Shameless Plug: For more Dave Matthews Band music,

come see Caltech's premier coddled cappella group, Out of Context, perform Dave Matthews' "#41" (from the hit album *Crash*) at Beckman Auditorium April 21 at 8 PM.

You should buy this album if:

1. You are a hard-core DMB fan who awaits each new album with open arms.
2. You want to hear Carlos Santana's guitar skills on "Mother Father".
3. You are a fan of the polished rock acts that get so much play on the radio.

Next time: *Anastacia Not That Kind* or something entirely different.



Crippling Depression

By Ben Lee, Tim Wan, & Mike Yeh



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MINTS



Announcements

The Math Department announces two categories of prizes offered this year to Caltech undergraduates.

The E.T. Bell Undergraduate Mathematics Research Prize: A cash prize of \$500 awarded for the best original mathematics paper written by a Caltech Junior or Senior. Contestants for the Bell prize must be nominated by a faculty member familiar with their work. Students who wish to be considered for this prize should contact a member of the Mathematics faculty prior to the end of the second term to discuss the nature of the research. If the entry is sufficiently worthy, the faculty member will nominate the contestant and act as sponsor. Each student is entitled to only one entry. All contestants nominated must submit their papers in final form to their faculty sponsors by the end of the fourth week of the third term, (April 30). A faculty committee will then judge the papers and announce its decision before the end of the third term. The committee may award duplicate prizes in case of more than one outstanding entry. The name of the winner (or winners) will appear in the commencement program.

The Morgan Ward Competition: Any Caltech freshman or sophomore may enter this contest. An entry may be individual (submitted by one student) or joint (submitted by a group of two or more students). Each student is entitled to at most three entries, of which two may be individual. An entry is to consist of a mathematical problem, together with a solution or significant contribution toward a solution. The problem may have any source, but this source should be stated in the entry. The entries may be judged on the basis of the nature of the problem, originality and elegance of the solution. Any outside references used should be indicated. Entries from each contestant or group must be placed in an envelope and delivered to the Mathematics Office, 253 Sloan, during the fourth week of the third term. The names of the contestant, or the names of all participants in the case of a joint entry, must be written on the envelope only, not on the entry. The Judging Committee will consist of three undergraduate. The judges will select a group of finalists and submit their entries to the mathematics department faculty who will make awards to the winners. Prizes will ordinarily be awarded for the 2 to 4 best entries, the value of each prize being \$75. Prizes for individual entries will be limited to one to a contestant, and no group may receive more than one prize.

2001-2002 Upper Class Merit Awards. Each year, the Faculty Committee on Scholarships and Financial Aid grants a number of Upper Class Merit Awards to the most academically-talented of the Institute's Sophomores, Juniors, and, occasionally, Freshmen. Upper Class Merit Awards are based on outstanding scholastic achievement as demonstrated by exceptional performance in formal classes and/or in independent research, and not on financial need. Last year, students were awarded Upper Class Merit Awards in the amounts ranging from \$13,162 (two-thirds of tuition) to \$19,743 (full-tuition). The number and caliber of the applicants determine the level of awards in any year. Applications are available in the Financial Aid Office at 355 S. Holliston or online at <http://www.finaid.caltech.edu>. Electronic submissions will not be accepted. The deadline for submitting completed paper applications to the financial aid office is 5:00 PM, April 20, 2001. No exceptions will be made to this deadline.

Guitar classes at CIT for the spring quarter will meet on Tuesdays in SAC Room 1, starting on April 3 as follows: Beginning Guitar Class 4:30 PM - 5:30 PM. Intermediate Guitar Class 3:00 PM - 4:00 PM. Advanced Guitar Class 5:30 PM - 6:30 PM. Classical and flamenco repertoires are explored, but techniques transfer to other styles of guitar. The Beginning Class includes a jazz/folk chord system. Classes are free to Caltech students and other members of the Caltech community (space permitting). Undergrads can receive 3 units of credit. The instructor, Darryl Denning, has an international background in performance, teaching and recording (two of his CDs are available in the Bookstore). Mr. Denning can be reached at (323) 465-0881 or by email at: ddenning@caltech.edu. The Guitar Home Page is at: www.music.caltech.edu/guitar.html

The dance troupe will be offering **FREE dance classes** Spring quarter. On Thursdays from 9-10:30pm, an introduction to modern dance series will be taught by professional instructor Liz Maxwell. Ms. Maxwell received her BFA and MFA degrees from The Juilliard School and the University of Washington, respectively. She has spent 30 years in modern dance, touring extensively throughout the US and Europe with several distinguished companies. Relocating to LA in 1994, Ms. Maxwell has been on the faculty of CalArts, CSULB, Moorpark, Loyola Marymount, and Scripps teaching dance technique, composition, and specializing in dance history. These classes will begin on April 12 and run through May 31 in the Braun multipurpose room. No prior experience is required, and no special clothing or shoes are needed. Free ballet classes taught by volunteer instructors will begin April 7. Beginning ballet meets from 1-2pm, intermediate ballet meets from 2-3pm, and advanced ballet meets from 3-4pm. For the beginning class, no special shoes are required. For more information, please visit our website at www.its.caltech.edu/~troupe. To sign up on our mailing list or to reserve a place in the modern class, please send an email to troupe@caltech.edu.

Gay/Lesbian/Bisexual Discussion Group: Looking for a safe and supportive place to discuss issue such as coming out, being out, dealing with family, coping with a homophobic culture, and being GLB at Caltech? Want somewhere just to make new friends? We invite you to the Gay/Lesbian/Bisexual Discussion Group, which meets on the first and third Tuesdays of each month from 8:15 until 10:15pm in the Health Center Lounge. This is a confidential meeting and does not imply anything about a person's sexual orientation - only that s/he is willing to be supportive in this setting. The group usually discusses a particular relevant topic and then moves on to the general discussion. Refreshments are served. If you would like more information, please call ext. 8331

Community Service Opportunities Abound! The Caltech Y offers students and staff a variety of ways to participate in community service. Opportunities include working with Habitat for Humanity, Union Station Homeless Shelter, math tutoring (on or off campus), reading tutoring, and working at local hospitals. One-time community service events are planned each term and opportunities for service on a regular basis exist. Undergraduates with federal work-study can receive \$15/hr for their community service work. To be added to the community service interest email list, or for more information about the Community Service Program, please contact Kristin Abbott at kabbott@caltech.edu or call 626/395-3180. Or, stop by the Caltech Y in the Center for Student Services (formerly Keck House) for a complete listing of opportunities.

The Caltech Alumni Association has funding available for student organizations. We give preference to organizations that encourage interaction between students and alumni. To be considered for funding, an application form must be completed and returned to the Association ASAP. The form can be found on the web at http://www.its.caltech.edu/~alumni/sfar_funding.html. If you wish to receive an application in hardcopy form, please contact Kim Goodfriend at extension 6852 or by email at kimberly@alumni.caltech.edu.

Event Highlights

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FRIDAY, APRIL 20

"AUTISM: DECIPHERING THE PUZZLE", 2001 BIOLOGY FORUM
Friady, April 20, 8:00 PM - 11:00 PM
Beckman Auditorium

THE CALTECH Y'S SOCIAL ACTIVISM SPEAKER SERIES WITH MICHELLE MASCARENHAS.
Friday, April 20, 8:00 PM - 10:00 PM
Beckman Institute auditorium

To submit a Mint, e-mail mints@tech.caltech.edu or mail your announcement to Caltech 40-58 Attn: Mints. Submissions should be no longer than 150 words. Email is preferred. The editors reserve the right to edit and abridge all material. Deadline is noon Wednesday. Unless specified, all mints will run for two weeks.



Scholarships

The Financial Aid Office has applications and/or information on the following as well as additional undergraduate scholarships. All qualified students are encouraged to apply. Our office is located at 355 S. Holliston, second floor.

Information, applications and recommendation forms for the 2001-2002 Upper Class Merit Awards Competition are available at www.finaid.caltech.edu. Please visit our web site at <http://www.finaid.caltech.edu/news.html> for complete information on the following scholarships: Win cash in EDFUND photo contest! Windstar Environmental Studies Scholarship Program for 2001, as well as those listed below.

Summer Work Study: Information and applications for 2001 Summer Work Study are available in the Financial Aid Office. If you are interested in Summer Work Study, please submit the required application as soon as possible, but no later than June 1, 2001. Your entire financial aid application must be complete by June 1 in order to be considered for Summer Work Study. If awarded, the Work Study funding will begin with the July 2nd payroll.

Vermont Student Assistance Corporation administers a need-based grant program for Vermont residents. Vermont Grants can be used at colleges throughout the as long as the college is approved by the US Dept. of Education for participation in the Title IV student aid program. Students are required to file a FAFSA in addition to filing a Vermont Grant application. For eligibility requirements and an application call VSAC at 1-802-655-9602, in-state 1-800-642-3177 or see www.vsac.org

P.L.A.T.O. is offering scholarships up to \$5000. These scholarships can be used for tuition, room and board, fees or other education-related expenses. The scholarship program is completely web-based; no paper applications will be available. Any student enrolled in an accredited two- or four-year college or university for Fall 2001 is eligible to apply regardless of status. There are no minimum GPA or standardized test score requirements. The application and additional information regarding the program will be available beginning February 1, 2001. All applications must be submitted by April 30, 2001. Scholarships will be awarded in August 2001. Visit www.plato.org

The National Institutes of Health scholarship program, the Undergraduate Scholarship Program for Individuals from Disadvantaged Backgrounds (UGSP), targets students who are committed to pursuing careers in health research or basic biomedical science research. The UGSP has strong mentoring and science enrichment components and offers up to \$20,000 per year in financial aid educational expenses. They provide housing during the summer and transportation, and their stipends for the 10 weeks are between \$2,500 and \$4,000. After graduation from college, recipients also "pay back" a year of service for each year of scholarship support, again through paid research training at the NIH. This pay-back can be deferred until after completion of graduate or medical school, and students are encouraged to defer their service pay-back until after receipt of their doctoral degree. For further information and an application go to the Internet site at: <http://ugsp.info.nih.gov>

The American Electroplaters and Surface Finishers Society (AESF) is offering scholarships to upper class undergraduate and graduate students who are interested in careers in the surface finishing field. Applicants must be full-time and majoring in chemistry, chemical engineering, environmental engineering, materials engineering, materials science, metallurgy, or metallurgical engineering. To apply, applicants must submit an application form, statement describing career objectives, list of educational achievements, official transcripts, and three letters of recommendation from teachers, employers, or professors. Applications are available in the Financial Aid Office. Please send completed application materials to: AESF Scholarship Committee, American Electroplaters and Surface Finishers Society, Central Florida Research Park, 12644 Research Parkway, Orlando FL 32826-3298. Entries must be submitted to the AESF Scholarship Committee by April 15, 2001.

John Gyles Education Awards are awards available to students in Canada and the United States. Awards are for all areas of post secondary study. Criteria other than strictly academic ability and financial need are considered in the selection process. A minimum GPA of 2.7 is required. Selected students will receive up to \$3,000. Filing dates for mailing applications in 2001 are April 1, June 1, and November 15. Students can receive an application by sending only a stamped *** (US 34 cent), self-addressed, standard letter size (No. 10) envelope to the following address: John Gyles Education Awards, Attention: The Secretary, P.O. Box 4808, 712 Riverside Drive, Fredericton, New Brunswick, Canada E3B 5G4

School of International Training (SIT) Freeman Grant which can be applied to the following semester programs: China, Yunnan Province: Languages & Culture/ Viet Nam: Culture & Development/ Mongolia: Culture & Development. These undergraduate awards are based on academic performance, curricular interest and the ability to carry out independent field study and will generally average half the program fee. Grant recipients are expected to help promote intercultural understanding and cooperation between the people of the United States and Asia. Deadline for the completed application is April 15 for the fall semester. More detailed information on SIT and its Study Abroad program is available at www.sit.edu. To receive an application, students can call 888-275-7881 or e-mail studyabroad@sit.edu or stop into the Fellowships & Study Abroad Office in SAC Room 25.



Upcoming Events

A screening of **artist's videos from Britain** will be shown at the Caltech Outdoor Art Space on Saturday at 7 p.m. The event is free. The screening will be held behind the Campus Recycling Center on Holliston.

Caltech Library System Spring Instructional Sessions: "Quick Review: Accessing Full-Text Journals and New Online Databases" April 10-13, 2001 from 12:00 ~ 1:30 p.m. (This class will be held on a walk-in basis.) Sherman Fairchild Library, Multimedia Conference room, 3rd floor, Room 328. Information: email kathleen@library.caltech.edu or call ext. 6713.

Caltech Division of the Humanities and Social Sciences **Seminar On Science, Ethics, And Public Policy:** Dr. Yochai Benkler, Professor of Law, Director of the Information Law Institute, New York University. "Freedom in the Digital Environment: Property, Commons, and the Institutional Ecology of Information". Room 25, Baxter Building. Friday, April 13, 2001. 4:00 PM. Refreshments will be served. Seminars are on the Caltech campus and are open to the community at no charge. For information, contact Michelle Reinschmidt at (626) 395-4087 or michelle@hss.caltech.edu. For a complete list of SEPP Seminars and Harris Lectures scheduled for this academic year, visit our web site: <http://www.hss.caltech.edu/ses/SEPP.html>

The Aero Association of Caltech/JPL will hold its Spring General Membership meeting on Wednesday, April 18, 7:30 pm in 201 E. Bridge. The meeting will feature guest speaker Barry Schiff, who has received worldwide recognition for his wide-ranging aeronautical accomplishments. He holds five world speed records and has received numerous honors for his many contributions to aviation safety. Non-members are also welcome to attend this meeting. For more information about joining AACIT or the Spring meeting, please contact Elaine Ou at x1365 or ou@its.caltech.edu.

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