

# THE CALIFORNIA TECH



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## Teachers Present Summer Research

BY: MARISSA CEVALLOS

Hundreds of Techers donning ties and collared shirts could be found around campus on Saturday as they presented the results of summer research on Summer Undergraduate Research Fellowship (SURF) Seminar Day.

Caltech students researched topics from protein folding and galaxy clusters to unconventional topics like the ethical food distribution to orphans in Uganda.

One project in each of the 18 sections was selected for the Perpall Speaking Award, which advances them as semi-finalists to the next round of giving presentations.

The following are a sampling of the projects presented on Saturday.

### Biology

Vickie Pon, junior, looked at mutant flies that can



Rena Schweizer, a SURF student from the University of California, Los Angeles, presents her research to President Chameau at Saturday's poster session. Schweizer is one of this year's Howard Hughes Medical Institute SURF Fellows.

smell a variety of odors better than normal flies. These mutant flies did not have the ability to habituate to odors, which, according to Pon, is "like being in a dorm room with a stinky sock smell, and after 30 minutes of hanging

around and talking to your friends, you don't notice the smell anymore."

Pon exposed normal flies and mutant flies to very strong odors for 20 minutes and then tested if they could still smell the odor. The mu-

tant flies had the ability to still detect a scent when the normal flies could not.

Says Pon, "My favorite part of this research was deciding which odors to use. I got to use odors that smelled really good, like the

smell of almonds, and others that were putrid. One of my odors was called cadaverine, a really gross-smelling odor."

Pon was the recipient of the Perpall Speaking Award

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## Volleyball Team Winless As Final Home Game Approaches



Lisa Yee (left) passes to Carolyn Valdez (right) during the Women's Volleyball team's 0-3 loss to La Verne on Saturday. The team will play their final home game of the season on Tuesday Oct 24th versus Whittier at 7:30pm. The beavers are hopeful that a large crowd will show up to cheer them on during their final at-home battle.

## Harvard Admissions Discontinues EA Caltech Weighs Options

BY: HAROLD MARTIN

On Sept 12, Harvard University sent tremors throughout the higher education world by announcing that beginning in 2007 it would discontinue its early action program. Princeton quickly followed suit, announcing less than a week later that it was discontinuing its early decision program. However, Caltech has yet to give an official response to these changes or announce whether it will continue its own early action program.

"This affects us, whether we like it or not," said Rick Bischoff Director of Undergraduate Admissions here at Caltech. He estimates that the amount of early applications Caltech receives could double next year, from 600 last admissions cycle to over 1200 next year.

As the college application

process grows increasingly competitive both admissions offices and students have attempted to profit from various types of early application programs. For students, such programs provide an potentially easy way to reduce stress by finishing the

*"This affects us, whether we like it or not."*

*~ Rick Bischoff,  
Caltech Director  
of Undergraduate  
Admissions*

application process early. For admissions offices, these programs increase the amount of accepted students who choose to attend, especially under early decision programs like Princeton's, which require admitted students to enroll.

Harvard, one of the top three schools that students admitted to Caltech have historically chosen to attend, has stated that it made the decision in order to prevent students from feeling pressured to apply early, provide opportunities for extended public relations tours, and encourage minority and disadvantaged students to apply.

However, those reasons do not necessarily all apply to Caltech. For instance, while Bischoff agreed that the early applicant pool is generally "whiter and richer," he also said that Caltech ranks as one of the top elite private universities for receiving undergraduate Pell grants, a common metric of financial neediness. He also said that since Caltech fills up only about a quarter of the class with early applicants.

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# The Outside World

BY: RADHIKA MARATHE

## US Joins 300 Million Club

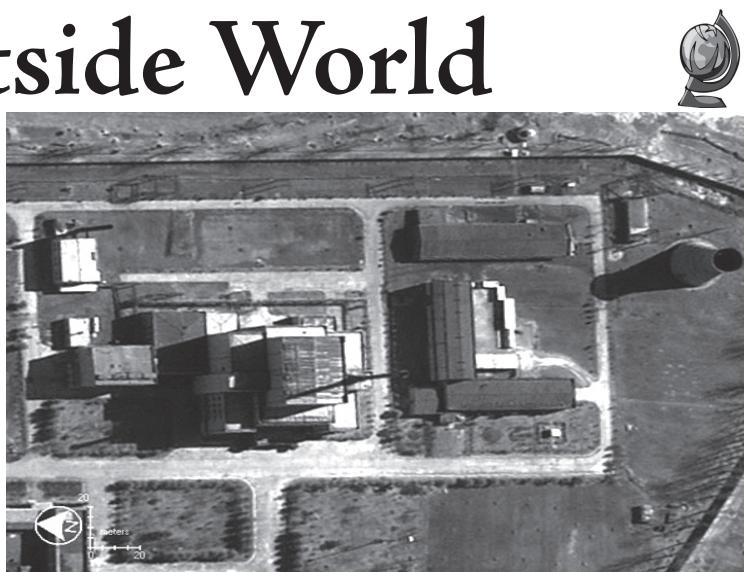
As estimated by the U.S. Census Bureau, the U.S. population hit the 300 million mark on Tuesday this week. The U.S. thus joins China and India with populations greater than 300 million. The major reason for this is the high birth rate as compared to the death rate, with one child born every seven seconds and one death occurring every 13 seconds. Another important reason is immigration at the rate of one person entering the country every 31 seconds.

The Census Bureau has further points about the population demographics. The general trends show people moving from the North East and Midwest to the West and the South. A steady growth in the population of the suburbs was also noted.

In spite of the larger population, the number of one-member households has increased from 18 percent to nearly 26 percent in the past 30 years. This trend has been attributed to young people choosing to remain single and delay marriage and widowed or divorced old people not choosing to remarry. Other points noted by the Bureau include more women in the workforce and better-educated Americans.

## North Korea May Be Preparing Second Nuclear Test

A US official reported that activity at a site in North Korea looks similar to that seen at the ninth October site just before the nuclear test. The official also spoke of reports from North Korean military officials stating the state's in-



North Korea nucular launch site. North Korea faces heavy sanctions after testing a nucular warhead.

tentions to carry out multiple tests.

The UN Security Council had passed a unanimous vote last Sunday penalizing North Korea for its claimed detonation of a nuclear bomb on October nine. The North Korean foreign ministry said in a statement carried by the official Korean Central News Agency that the UN sanction resolutions could be construed as nothing but a 'declaration of war', also adding that the country wanted 'peace but was not afraid of war'.

U.S. Secretary of State Condoleezza Rice will be traveling to Tokyo, Seoul and Beijing to consult with leaders regarding sanctions against Pyongyang approved by the UN Security Council. En route to East Asia, the Secretary commented that the international community has decided that it is unacceptable for North Korea to have a nuclear program and the denuclearization of the Korean peninsula remains the goal.

## Wall Street paychecks average \$300,000

Wall Street workers took

home a pay of 5.1 times the average New York City worker's pay last year due to profits from trading and merger advising. The highest paid bankers and traders can command up to 8-figure packages.

The average bonuses were a record \$125,000 per person. Wall Street compensation increased by 21.9 percent in 2004 and by another 11.8 percent in 2005.

Industry employment was also seen to be on the rise with an additional 6300 jobs created last year restoring about a third of the jobs lost during the three-year bear-market as the technology and telecommunications bubble burst.

## Seafood Benefits Outweigh Cancer Risks

A recent report from the Institute of Medicine, which advises the government on health policy, stated that the nutritional advantages of seafood far outweighed the risk of cancer due to contaminants such as mercury.

Most adults consume fish to help prevent heart attacks. The report from the Institute of Medicine stated that the com-

mittee members could not be sure of whether heart disease was prevented as a result of the omega-3 fatty acids in the fish or simply because fish, low in saturated fats, replaced some of the fattier meats in the diet.

Additional evidence from a study by researchers from the Harvard School of Public Health found that one to two servings of fish a week reduced heart disease by a whopping 36% and overall death by 17%.



Recent evidence suggests that eating fish twice a week cuts risk of heart attack 36%

## Scientists Create First Manmade Inert Gas

Researchers from Russia and the United States have succeeded in creating the element with atomic number 118 that is the heaviest element produced so far and the first manmade inert gas, a family including helium, argon, and neon.

The researchers said they bombarded californium, a manmade element with calcium to make an atom with 118 protons in its nucleus that lasted a millisecond. The findings are published in the journal Physics Re-

view C. The same research team has created four other elements in the past.

The experiment brought memories of the incident in 1999 when scientists claimed they had created the element with atomic number 118, only to withdraw claims in 2002 in midst of charges of falsifying data, leading to the firing of a scientist.

## Argentina Passes New Law For Sex Education From Age Five Onwards

A country which has 15% of births are from mothers between the ages of 15 to 19 welcomes a new law that calls for sex education in school starting from the age of five years onwards. The National Program of Comprehensive Sex Education includes teaching the biological, psychological, social and ethical aspects of sexual relationships to school children over the next four years.

# Caltech Reacts To Harvard Early Action Policy Change

CONTINUED FROM PAGE 1

cants, the threshold for admissions is even higher for those who apply early.

Bischoff declined to comment on whether Caltech would continue to offer an

early action program, claiming that he didn't want to spread rumors amidst intense national media focus on the issue. He did, however, af-

firm that the Admissions Committee has already written a proposal on the future of Caltech's early action program that could soon come before the Faculty Board.

The Admissions Committee is comprised of admissions staff, faculty mem-

bers, and undergraduates, and is primarily responsible for deciding whether to accept each applicant. "Undergrads are equal members of the process," said undergraduate admissions officer Ben Golub.

*"The undergraduates on the Committee, whom Bischoff called 'incredibly good,' vote on applications and participated on equal footing in deciding on the contents of the early action proposal."*

The undergraduates on the Committee, whom Bischoff called "incredibly good," vote on applications and participated on equal footing in deciding on the contents of the early action proposal. Bischoff also said that the undergraduates on the Committee were a crucial part of

ASCIT Board of Directors

Minutes from the Side Room in Chandler Wednesday, October 18, 2006

Present Officers: Todd Gingrich, Jean Sun, Csilla Felsen, Nate Donnellan, Chris Watson, Vickie Pon

Guests: Lauren Savage, Tsong-Lian Tsong, Mason Smith, Andrea Dubin

### 1. Funding Requests

\* Lauren Savage requested \$100 for a CCF pancakes event on Oct. 28 in the Mods Courtyard. Vote to grant this funding approved (6Y/0N/0A).

\* Tsong-Lian Tsong requested funding to take Prof. Kauser to lunch at the Ath with 3 other [frosh] undergraduates. Vote to grant take-a-prof-to-lunch funding approved (6Y/0N/0A).

\* Mason Smith requested Interhouse funding for Page. The funding will go towards 2 strippers, 1 hooker, and a bag of tortilla chips. Vote to give Page its Interhouse funding approved (6Y/0N/0A).

\* Andrea Dubin asked for funding for taking the Finance Seminar class out to dinner with VP Dean Currie. Vote to fund the dinner approved (6Y/0N/0A).

### 2. Short Meeting News

\* The panel for the Trustee Meeting is going to be Todd, Jean, Craig, Ben Golub, John Lui, and Joey Koheler. They will be determining the best way to present the main items the student body would the Trustees be aware of and address.

\* Chris Watson needs to set the rolling thingie asap so people can start checking out movies from the Coffeehouse.

\* Staff Awards will be distributed asap by Watson.

\* Midnight Donuts is coming up in November. We need to make sure people aren't disappointed by Fall not being strawberry-growing season. Re: NO STRAWBERRY DONUTS. But all your other favorite donuts will be there!

Respectfully submitted,  
Vickie Pon  
ASCIT Secretary

# SURF Students Present Summer Research

CONTINUED FROM PAGE 1

for her section. As a semi-finalist, Pon will give her talk again to a larger audience. But that's OK, because she has a few crowd-pleasing tidbits in her talk.

"The enzyme of the gene I'm studying is not only involved in olfaction," said Pon, "but it's also involved in the mechanisms behind Viagra."

## Social Science

Geoff Galgon, a sophomore, lived in India for the summer researching why smokeless stoves were not being implemented in small villages, despite the half million women and children who die every year in India from smoke inhalation.

"I'm interested in rural development in general, and because I'd been involved with similar smokeless stove programs in Nepal, I figured it'd be alright to keep going with that."

Galgon held discussions with local villagers and interviewed officials who were in charge of implementing smokeless stoves. In the case of one village, officials claimed 350 stoves were installed, but Galgon did not see a single working stove in the village.

"I am interested in setting up [a Non-Government Organization] somewhere in South Asia after school's over, though that's a long-term goal," said Galgon, a math major.

Galgon was first introduced to the problem when he lived in Nepal for nine months before his freshman year of Caltech.

## Mathematics

Mike White, a junior in math, proved a theorem in abstract algebra involv-



Krastina Petrova, junior in Ricketts, presents her summer research project. Petrova was also a Howard Hughes Medical Institute Fellow.

ing Galois theory and analytic number theory. Galois theory is used in the proof that one cannot solve higher than a fourth-order polynomial, while, for example, quadratic polynomials have the ever-familiar quadratic formula from high school.

White entered his project into the poster presentation, as opposed to giving a PowerPoint presentation in the

Oral segment of the SURF Seminar Day.

"I decided to do this project because I was interested in Galois theory, and abstract algebra in general," said White.

## Engineering

About a dozen projects focused on planning for the 2007 DARPA Urban Challenge. In this year's

Challenge, Caltech's autonomous vehicle, Alice, will navigate through city streets, unlike the desert terrain of last year.

Because Caltech has two summers to prepare for the race, this past summer was mostly spent in the planning phase.

"Next summer we'll be recruiting people right and left as we get within three months of the race," said Dave Rosen, an active member of DARPA.

Rosen, a recipient of the

Perpall Speaking Award on Saturday, worked on determining when the car could do things like make left turns into oncoming traffic.

Other SURFs working on DARPA included writing software to determine what maneuvers are legal based on traffic laws.

The SURF program runs for ten weeks during the summer. Applications for SURF next summer will be released on Dec 1 and are due by Feb 22.



Photo by Jonathan Tsai

Students present their SURF projects and mingle with each other at last Saturday's SURF Seminar Day.

## Tutors Wanted

Home tutoring for all subjects K-12. Flexible hours. Car needed. Long-term positions. Caltech students get credentialed teacher rates: \$20.50-\$22.00/hour. To apply visit: [www.academicadvantage.com/jobs](http://www.academicadvantage.com/jobs)

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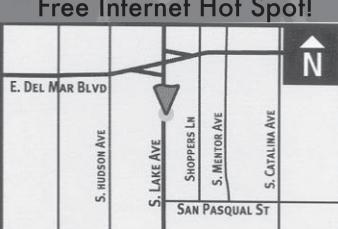
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## RESEARCH PARTICIPANTS NEEDED!

Fill out demographic, personality and relationship style questionnaires and attend three group sessions in Pasadena for one hour each, with follow up- all confidential. Must be single/never-married, heterosexual, over 18 and under 40. \$80 for all three sessions. Labs are located in Pasadena. Contact: [eHarmonyLabs@eharmony.com](mailto:eHarmonyLabs@eharmony.com).

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# Donut Provides Useful Services For ASCIT Members

BY: RADHIKA MARATHE

ASCIT or the Associated Students of the California Institute of Technology has been the main undergraduate student government body since 1935. Donut is the official website of ASCIT that provides a variety of features both useful and interesting for Techers. These have been briefly introduced below for all the new members of the Caltech community who haven't quite 'figured things out' yet.

## 1. Home (Personal Accounts)

All undergraduates, graduates, faculty and other members of the Caltech community may maintain a personal account which may be used for selling books online, updating directory information, and voting for the online elections on Donut. The website also maintains an Event Calendar with athletic and social events on campus such as Interhouse sport schedules, dance classes, meetings and information sessions, as well as deadlines for scholarship

and other applications.

## 2. Services

- Bookmart:** Techers looking for deals on new as well as old books can compare prices at the Caltech bookstore, the campus-wide used book market and competitive online booksellers such as Amazon.com. If you aren't looking for any particular book, browsing through lists of books up for sale on campus and online is also possible with this feature. Members with ASCIT accounts may also post books for sale with the ISBN number, a quoted price and a brief description.

- Club Finder and Services:** All clubs on campus managed by members of the Caltech community may become registered with a club name, URL and a brief description, enabling ASCIT members to search for them using the Club Finder. Registered clubs may post events on the Event Calendar and make online reservations for the ASCIT screening room for showing movies.

Special club services such as hosting the club website on donut and offering access to webspace through a standard shell account

are available on request. A link to the Caltech Club Resource Handbook is also provided here which gives prospective 'club-makers' information about starting a club, organizing events and fundraising.

- Directory Service:** One of the most useful features provided by Donut, it may be used to search for any Caltech community member by name, house affiliation, major, residence and email address. A great way to stalk all your classmates, the only shortcoming being you can't enter 'Male, 21, attractive' to get any interesting results...

- Newsgroup System:** This is a service provided to find newsgroups and post messages on the same.

- Online Voting:** The ASCIT Voting and Survey System provides online surveys, mostly for student body elections and general surveys regarding course feedbacks, athletics, award nominations etc. It also has archives where results of previous surveys may be viewed.

- Screening Room and Video Library:** The website provides an online movie catalog to browse for DVDs which may be checked

out from the coffeehouse during work hours from the coffeehouse (insert work hours). The website also allows reservation of SAC Movie Screening Room using the ASCIT account.

## 4. Committees

This provides links to the web-pages or the ARC, Athletic Committee and the IHC and the list of current members for all other committees under ASCIT.

## 5. ASCIT Info

As claimed by the Donut web-masters, here is 'your source for everything you could possibly want to know about ASCIT'. This includes Current News, annual ASCIT budgets from 2002 to 2006, ASCIT documents (including By-Laws, rulings of the executive committee, and resolutions of the BoD etc.), minutes of the weekly meetings, a list of current members as well as a brief mission statement and history of formation of this undergraduate government body.

The Tech will be printing a news story the following issue that describes new features that will be available on donut.

## Website Review

# Blogging With Humor

BY: HAMILTON FALK

I'm an internet junkie, and every day I check a number of sites to see if there's anything worth looking at to stave off work for another few minutes. My list includes ESPN's site, and PhiladelphiaEagles.com (I'm a bit of an NFL fan), friends blogs, Penny Arcade (an online comic) and McSweeney's.net. The dot net is important, since the .com version is something boring, but McSweeney's delivers entertainment that ranks at the top of what the internet has to offer.

The site describes itself as "Timothy McSweeney's Internet Tendency is an offshoot of Timothy McSweeney's Quarterly Concern, a journal created by nervous people in relative obscurity, and published four times a year." Some of these obscure people you may have heard of include such famous Davids as David Sedaris and David Eggers, and many others, who I won't bother to discuss.

The site is a variety of written words, arranged in amusing ways.

I should warn that it is in general a pretty liberal place, and sometimes the humor is a little high brow, but unless you're a coward, you'll deal with it.

When you come to the site you're greeted with what Timothy McSweeney is doing (for example, he recently lost himself for a moment, due to thoughts on the roof of his mouth) and if it's a weekday some feature. The sort of things you might get to read include "An e-Threat From The Manoni Brothers", "Spam Finally Taps Into Male Desires" and "The 4-Year-Old Entertainer's Anger Management."

In addition to this sparkling content, you can look at other content (updated, as the site explains "We will put some things 'up,' so to speak, on some days, and on other days, we will not put things up") such as amusing lists (Reasons Not To Fear The Reaper, Where I Would Look For Hungry, Hungry Hippos, Good Advice From The Grand Theft Auto FAQ).

The site also features Dan Kennedy answering your questions about paper, "Reviews of New Food" and "Open Letters to Peo-

ple or Entities That Are Unlikely to Respond". This last feature includes such things as: An Open Letter To Orcas, An Open Letter To The Occupants Of A House On The Nintendo Game "Paperboy," and An Open Letter To The State Of New York. You should enjoy these things, which provide witty quips, amusing away message statements and the chance to feel elitist.

It may be important for you to know who Timothy McSweeney is. Until last Tuesday, I would have told you "too bad" but thanks to the beauty that is Wikipedia (which should receive its own web review from someone

of greater knowledge and literary powers than myself) I can tell you who he is.

The founder of the site, David Eggers, explained that his family used to get letters from a man who called himself Timothy McSweeney, claiming to be his mother's long lost brother, who would include flight plans as if he was coming to visit. Eggers' relatives have always denied that there is any such real person, but he admits he is unsure of the truth of their denial.

Before you rush off and log on to your computing machine to travel the highways and byways of the internet until you finally

reach the home of the Internet Tendency belonging to Timothy McSweeney, there is one more thing you should consider.

Some of my favorite sites (Comedy Central's Daily Show and Colbert Report archive, YouTube and others of that type) make noise, which means they're only good for watching in the privacy of my home, where I can be doing more useful things.

McSweeney's is silent, and thus can be accessed and enjoyed during the usually wasted time of "attending class" instead of wasting your time learning.

So visit McSweeney's.com, and enjoy it.

**This issue *The Tech* presents the results from the first week of a financial market experiment conducted by a team of scholars at the Caltech Laboratory for Experimental Finance. Results will be posted here every week for the duration of the experiment.**

There were 64 investors and 32 managers who participated in this round, all of them Caltech students. The table lists how the managers performed in the last round. The fund managers are identified by names of minerals.

The Return of a portfolio is computed as (final value - initial value)/initial value. The Volume is the percentage of the total value of assets invested in a fund. The Residual is the cash amount of assets left after the management fee is collected by the fund manager. The DowTech is a fixed portfolio of assets and cash, and provides the measure of return if managers started with that portfolio and held on to it. Students who want to participate in the experiment as an investor may visit the CLEF webpage at <http://clef.caltech.edu/exp/dp/index.html>

Fund	Returns	Volume (%)	Residual (\$)
DowTech	0.205	NA	NA
Albite	-0.442	2.018	7.411
Alexandrite	1.191	2.382	95.008
Allanite	0.105	2.423	37.853
Alunite	0.388	2.343	51.375
Amazonite	0.659	4.619	131.630
Amblygonite	-1.346	5.315	0.000
Amosite	0.007	2.332	31.705
Andalusite	-0.219	3.360	28.413
Anthophyllite	0.332	2.778	58.545
Atacamite	0.335	3.380	71.764
Barite	0.136	2.928	48.501
Bassanite	0.437	2.837	66.233
Beidellite	0.175	3.171	53.884
Bementite	-0.014	2.956	38.196
Bentonite	-0.021	2.314	29.667

Fund	Returns	Volume	Residual
Bertrandite	1.159	2.007	77.376
Biotite	0.102	2.479	38.989
Birnessite	0.285	2.470	47.786
Bloedite	-0.988	3.444	0.000
Boracite	0.229	3.058	55.800
Calcite	0.269	3.353	65.028
Carnallite	-1.005	3.288	0.000
Celestite	0.130	2.776	45.340
Chalcopyrite	0.156	4.412	76.048
Chlorite	0.059	4.420	64.755
Colemanite	-0.012	3.520	46.272
Cornadite	0.230	2.744	51.214
Cristobalite	0.332	3.116	66.144
Cryolite	0.673	3.419	98.897
Dolomite	-0.159	4.021	39.790
Dumortierite	1.611	2.842	139.725
Dunite	-0.393	3.475	16.502

TIMOTHY MCSWEENEY'S  
PAINFULLY AWARE OF HIS OWN ADAM'S APPLE.



This banner from October 22nd, 2006, sets the mood for visitors to mcsweeney's.net

Photo courtesy of [www.mcsweeney's.net](http://mcsweeney's.net)

Career Corner

# Techers And Finance Add Up Well

**BY: DIPAYAN GHOSH**

From his roots as a young professional poker player to the highs of becoming a co-founder of one of the largest trading firms in the world today, Jeff Yass of Susquehanna International Group, LLP (SIG) is presently regarded as a preeminent player in the game of stock options markets. His region of the industry has, in recent years, shown some interesting trends that greatly favor quantitatively-trained Caltech graduates over financially-trained graduates from schools geared more towards the liberal arts and humanities.

In honor of Caltech's Career Fair, Yass responded to some questions about trading firms like SIG hiring new prospects who have received a more quantitative education (i.e. in math, science, or engineering) than a financial education (i.e. in economics, management, or accounting).

**Tech:** How did you come to the point in your career where you are now? Does your success have to do with any particular influences during your college life?

**Yass:** Yes. I took a probability course during college, and the professor posed the following situation: A gambler has \$100,000 and is playing against a house that controls an infinite amount of money. If the gambler wagers \$1,000 per hand and has a 51% chance of winning each hand, what is the probability that the gambler will eventually go bankrupt if he keeps on playing against the house? That number turned out to be just 1-2% (which is  $(49/51)^{100}$ ). The lesson I took from his example is that if the odds are even slightly in your favor and you are only betting a

relatively small amount of money, then you should win over the long run.

**Tech:** You're known to have had considerable success as a poker player in the past, and poker is a game that is greatly increasing in popularity today. Do you think you've taken any lessons from the poker table that are applicable to your career?

**Yass:** Yes. The key lesson to learn is that the only thing you control is making the right decision. A good player may only have a 51%/49% advantage against an ambitious player, but over time, this difference will show, and the better player will have more success.

**Tech:** How did you take up business after poker?

**Yass:** My father was already in business, and I decided to turn to stock options. I wrote my economics thesis on the Chicago Board Options Exchange. After that, I combined a loan from my father with my poker winnings and turned to the industry.

**Tech:** Many people struggle to understand how a company is initially set up, as in where the idea comes from, where the money comes from, and how to generally start up. Do you have any advice on this issue?

**Yass:** In my case, it was a loan that helped me get started. Also, my parents didn't want me to stay in the house after college. My suggestion is that if you're a smart kid and have a powerful idea, go to someone who can raise capital very easily and present your idea. If it is powerful, it will be successful. Entrepreneurs want to be able to get the most amount of money but undergo the least amount of risk. They always want to make as large a return as possible on a small amount of capital, and this



Photo courtesy of wikipedia

**Jeff Yass is famed for his poker skills and expertise in the options markets.**

is where the powerful ideas can help.

**Tech:** Susquehanna seems to be a relatively young company, as it was set up in 1987. How did the company grow so much as to come where it is today?

**Yass:** Our [the co-founders'] idea was powerful – we used a mathematical approach to trading equity options. We also had a good amount of luck, as the bull market started in 1981. Then we placed a trader in every options pit – the Pacific Stock Exchange, the Chicago Board Options Exchange, the American Stock Exchange, and the Philadelphia Stock Exchange. Our traders were (and are) taught in a rigorous class that showed them how they could make a large amount of money from a small amount of money. Traders are made, not born. An intelligent quantitative person can make money, because this business is largely mathematical.

**Tech:** What kinds of people are you looking for when Susquehanna hires new employees?

**Yass:** In the past, it was helpful to

hire tall people – these traders had a stronger presence with brokers than others on the floor. Now, all the trading is done on the computer, so we need more quantitative people who can adjust to the situation. These people don't get emotional when they lose. They can move on to the next trade and get the odds slightly in their favor again.

**Tech:** In the past two years, you have hired six Caltech undergrads and three Caltech PhD students. It seems that you think that some Caltech students have the right personality that you are looking for when you hire. What types of students in particular are these?

**Yass:** All are quantitative – all like mathematical puzzles. When given a problem they all show joy in figuring it out. They keep thinking about it and believe that they can get it. People who are cut out for this industry don't see trading as a job; it's like a sport that it is intellectually stimulating, where you get to play the game every day. Caltech students work hard and enjoy the challenges we present. They have the skills and the temperament, and they are relentless in solving problems. Someone who is capable and enjoys working will have much more success than someone who is not.

**Tech:** Why do you think companies like Susquehanna have recently opted to invest in new employees, such as those from Caltech, with more quantitative training (i.e., degrees in physics, math, and engineering) than those with more financial training (i.e., degrees in business and economics)?

**Yass:** Economics and finance are relatively simple subjects that can be taught very quickly. We can get you up to speed in a short time – the rest is relatively easy. We don't want to pay a finance major to whom we have to teach math. We want quantitatively-thinking

people who can learn anything in a relatively short time. Most students will take nine to eighteen months to get up to speed, but some Caltech students have done it in 6 months. Also, these students are working at the same time as taking classes as Susquehanna.

**Tech:** Can you give some estimate on the ratio of newly hired employees with quantitative backgrounds to those with financial backgrounds?

**Yass:** Approximately 3:1. It has gotten more and more quantitative with the advent of electronic exchanges. Twenty years ago, one person could be responsible for trading five stocks at a time. One can do 50-100 now. The reason the company has had so much success is that we have used mathematical processes instead of judgment. How well you process information determines how good you are. Your algorithm better be right since trading is so quick.

**Tech:** What is your experience with the employees you have hired from Caltech? How are they placed in the company hierarchy with respect to employees of different educational backgrounds?

**Yass:** The Caltech success rate has been fantastic. Amanda [Ryan]'s fulltime job is to familiarize Caltech with Susquehanna. We feel that the environment at Susquehanna is a fit with that at Caltech because of the nature of the work. Generally, Caltech students are advancing rapidly here. There is very little politics or bureaucracy at Susquehanna; if you're good, you will be rewarded.

**Tech:** Is there anything else you would add?

**Yass:** Susquehanna is currently hiring, and we'd love to fill our ranks with Caltech graduates.

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Then and Now

# Females Were Integrated Slowly

**BY: YANG YANG**

Long before 1970, there was a popular clamor for a feminine presence on campus. Caltech began admitting female graduate students in 1950, yet the board seemed to have no plans for admitting undergraduate women. On January 10, 1963 an article addressed the reasons.

"A question which appears periodically about Tech is why there are no women in the undergraduate student body and why the school has no plan or provision to admit them in the future," it says.

The article details a study done by MIT about women in higher education which reached the conclusion that women tend to marry after college rather than go on to get jobs. "It was felt that this money [educating the student] was wasted in the case of a person who did not pursue a technical career after receiving this education," the article stated.

When the board finally voted for the gender integration of Caltech five years later, the proposal was greeted by a banner headline "Girls Coming to Tech!" on November 7, 1968. An editorial in the same issue lauds the effort.

"Last weekend the Board of Trustees acted intelligently in agreeing to the admission of

women undergraduates in the near future. This action brought joyous shouts to the lips of many undergraduates, especially among the two lower classes. We applaud this decision..." the article commends.

However, it goes on to criticize the administration for delaying female entrance until two years later, the fall of 1970. The administration had planned to construct a new dorm to accommodate the new arrivals since coed rooming was forbidden.

That year Dabney house pioneered the idea of coed dorms. In November 1968, Sydney Webb, wife of Dabney RA John Webb, became the first woman to officially live in one of the student Houses.

By April 1969, a whole alley was emptied in Dabney for "the Great Experiment." Several female student research associates (SRAs) occupied the rooms, turning Dabney into a coed house for the first time in Institute history. The move was applauded by most faculty and students at Caltech.

"We believe that an integrated housing facility would be a workable solution," said the editorial of the May 1, 1969 edition of the Tech. "The life in the houses could be improved appreciably over existing conditions. The Universities of California and

Oregon, as well as Stanford University and others all have very successful coeducational housing programs. The dormitory halls are diversified and the attitudes of their residents more varied and, we think, more normal, than those of a forcefully divided school.

An Ad Hoc Faculty Committee on Aims and Goals agreed with the students views, recommending that "every effort should be made to find a mechanism for housing women undergraduates within the

*"It was felt that this money [educating the female student] was wasted in the case of a person who did not pursue a technical career after receiving this education."*

existing student houses."

Due to both student pressure and financial sensibility (the new segregated house would have cost \$650,000 to construct), the Board of Trustees finally relented. The first female undergraduates at Caltech arrived in 1970 to renovated rooms in the original student houses.

Todd's Paperside Chat**BY: TODD GINGRICH**

Roughly every five years the Caltech trustees meet with a small group of undergraduates to discuss a variety of student issues. This upcoming Saturday we are lucky to have this opportunity again. A panel of six students (Todd Gingrich, Craig Montuori, Jean Sun, Joey Koehler, Ben Golub, and John Liu) will meet with the trustees for about an hour. The meeting is largely devoted to giving the trustees a sense of undergraduate life at Caltech, but we will also have some opportunity to briefly discuss things we think could or should change at Caltech.

Main topics of discussion will likely be quality of teaching, South House renovation, North House status, the loss of SAC space, and prospect of a new student center. After the meeting I



will put a much longer blurb in the Tech outlining the topics that were discussed and any significant things that arose from the discussions. In the mean time, if you are particularly passionate about some Caltech issue you think we are prone to ignore, feel free to contact me (pres@donut.caltech.edu). Please keep in mind that the trustees deal with high-level issues. For example, this is not the proper avenue for us to complain about specific housing policies.

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If we print your material, we will pay you up to the amounts listed to the right (at our discretion). Email submissions to [tech@caltech.edu](mailto:tech@caltech.edu).

Movie Review

# Little Miss Sunshine Warms Up The Crowds

**BY: CINDY KO****Grade B+**

Little Miss Sunshine is a movie about the semi-dysfunctional Hoover family and their road trip from Albuquerque, New Mexico to Redondo Beach, California, where Olive, the family's chubby, myopic, but cute 8-year old daughter is a contestant in the "Little Miss Sunshine" Beauty Pageant.

To make things interesting, the members of the family has their own pecadillos, making them a family made entirely out of black sheep.

The most normal in the bunch is the mother: the remarried, over-worked, and pragmatic sole breadwinner for her quirky brood. Her father is an unreformed, relapsed drug addict; her son is an ornery, unsympathetic, Nietzsche-worshipping teenager; her brother is a depressed academic, recently jilted of the Proust and the love of his life.

It's difficult enough to get everyone to sit down to dinner, but everything is only made worse by her husband, an over-confident entrepreneur with no income, but a plethora of self-help advice in the form of a 'Nine-Step Program.'

When Olive becomes eligible for the pageant, the family members each put their daily activities aside to support Olive in her quest to win the title. The Hoovers pile into a VW Twinkie van for two days and encounter all sorts of troubles come up during their trip, including—but not limited to—a broken transmission, a dead body, and porn-loving cops.

As more things stand in the way between the family and Redondo

Beach, there is a sense of urgency that propels the characters and the movie forward. Of course, they make the most of it by bonding and loving each other just the way you think they would.

The movie is not a winner in terms of the storyline. In the context of the other movies in the same genre, such as Wes Anderson's *The Royal Tenenbaums*, it's not a brilliant or clever tale.

I think I pretty much could predict what was going to happen by watching the trailer and the first five minutes. Plot twists? Not going to happen. However the strength of the movie is its ability to capture the truly awkward things that happen in real life—the ones you think are funny, but you never knew anyone else thought they were, too.

I especially like one scene toward the end of the film, when the pageant contestants line up on stage. The camera pans over the girls, each more Barbie-like than the other, until the lens passes over Olive, who looks as awkward as a human hot dog on stage.

The actors in Little Miss Sunshine are all still relatively unknown, which puts an air of "everydayness" to their characters. Though they seem like caricatures of whackos and weird uncles at first, they are still somehow portrayed in a believable way.

As you would expect, Little Miss Sunshine operates an entertaining show through its wonderfully witty dialogue. The jokes



have a subtle humor and are consistently funny throughout the movie.

I like the scene when Frank, the depressed/suicidal uncle, asks his nephew, Dwayne, whom he hangs out with. Dwayne, abiding to his self-imposed vow of silence but still managing to be a mouthy

teenager, writes on his notepad while Frank reads out loud: "I...hate...everyone." Everyone? Even your family?" At this point Dwayne underlines a word on his notepad, "Everyone."

Yes, the ending is predictable, but it's okay-- it's still two hours of good-humored fun.

**The California Tech**

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# Techers Take 7th Place In SCIAC Multi-Dual XC Meet

**BY: MARK EICHENLAUB**

Wary of varied barriers, Caltech's harried Harriers ferried their very hairy derrières past wary inferiors last Saturday the 14<sup>th</sup>. They faced the race pace with grace and encased seventh place. The teams, all with dreams of supreme regimes, streamed past in reams and gleamed in the steam, by which I mean fog.

The gun stung; my ears hummed and one young son sung as the run begun – what fun! The men begin when clock struck ten (minus one). Mud goes thud, clud, as a hundred studs flood past and blood shud from dud buds rubs out. Fans stand and demand their man can expand the land band that spans to the next man as grand plans command tired glands to understand the ban of slowness.

Matt Kiesz' knees need speed please cause a breeze flees as he's squeezing ahead. Matt combats wombats so fast that he begat 31<sup>st</sup> place. His head sped and led our dread spread ahead as we fled the red streaks of Redlands' tread.

David "Cupcake" Rosen's dozen cousins wasn't present. Dave, the brave knave, gave a wave and behaved not depraved as he slaved away and saved the day. Cupcake did shake fake breaks from flake drakes and take every break to partake of 51<sup>st</sup>, no mistake.

Billy Zdon has a name that's hard to rhyme with, even in slant. But he was our third finisher-winner. There, I at least got one little rhyme in this paragraph. I kind of had to make up a word, though. But hey, Shakespeare did that, too, and look where it got him – dead.

Chris Shantz' pants gave a glance of underpants as he

danced past. Tommy Morphet's corsets tore bits of gore-bits and forced it into orbit. Steve Horikoshi, like Yoshi, would coast he got the most he could from the gauche-y toasty loafs he wore.

Paul Suffoletta, the proof of better, times though our letter, could spoof a lemma, or just finish in 78<sup>th</sup>. Ben Lin didn't win but did begin to grin with his chin thin kin whose shin has no twin, to my chagrin. Nathan Lau, how now?

The ladies made the shady glade a grand parade as they displayed high-grade unafeard cascading masquerade in the mislaid, man-made, sautéed, surveyed, upgraded, well-laid blade of grass they couldn't evade but could dissuade and persuade to serenade their dismayed invading grenading humiliating arcade.

Diana Lin's lack of sin within Berlin's violins was irrelevant, but she was our first finisher anyway, in 41<sup>st</sup> place. Katherine Breeden's speed in the weeds leads her to succeed and proceed, not recede, indeed she'd need feed reeds to heed her deeds as she agreed to exceed and did stampede to 44<sup>th</sup>.

Natalya Kostandova... oh man, "Kostandova". I don't even want to go there. But she ran amazingly well to secure 48<sup>th</sup>.

Sarah Stokes broke the yoke and poked some folks to provoke and didn't croak. Masha Belyi evaded hell she never fell she could tell she ran swell she was impelled to be our fifth runner. Heather Widgren, without tail fins, and within a big bin was akin to a pin, I guess.

The team will compete again next Saturday at the conference championships. For detailed results, see <http://running.caltech.edu/xc>



Photo by Ian Chapiro

**Caption Action!** A fraction of traction extraction yields satisfaction in the track meet. Two front runners, left to right: Matthew Kiesz, David Rosen.

## UPCOMING INTERCOLLEGiate ATHLETIC EVENTS:

**Tuesday, October 24th**

7:30PM - Women's Volleyball vs. Whittier College

**Wednesday, October 25th**

4:00PM - Men's Water Polo @ Occidental College

4:00PM - Mens' Soccer vs. Whittier College

**Friday, October 27th**

5:00PM - Women's Volleyball vs. Colorado College @ C-M-S

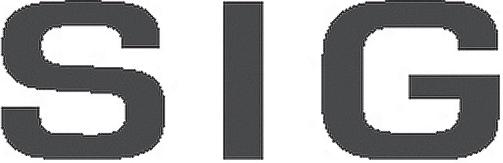
7:30PM - Women's Volleyball @ Claremont-Mudd-Scripps

**Saturday, October 28th**

9:00AM - M/W Cross Country @ SCIAC Championships (Chino)

11:00AM - Men's Soccer @ Claremont-Mudd-Scripps

3:00PM - Men's Water Polo @ Whittier College



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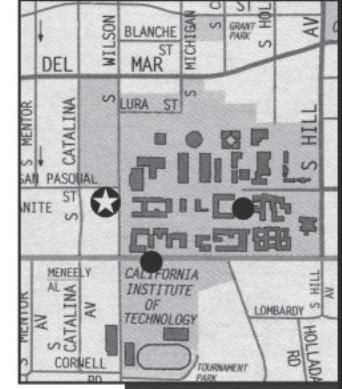
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# Ostriches: More Than Meets The Eye

BY: HAMILTONY FALK

As *The Tech's* preeminent investigative reporter I've brought to your collective attention issues such as the dangers of cooking pizza while still in the box, the corruption that lurks within the Caltech Dog-Walking Club's upper administration and helped track down the ancient mega-beaver that once lurked in the tunnels beneath Millikan feeding on darkness and Techers.

Thus I think I've earned your trust as well as your respect. That is why I've decided to ignore the threatening letters from industry and the threatening calls from old men who've dialed the wrong number to reveal something that threatens the very core of the average Tech's lifestyle. That's right, I'm finally going to talk about The Ostrich Problem, or TOP as it is referred to in national security briefs.

Before we confront the problem that ostriches present, it is important that you understand the creature we are discussing. Ostriches are not emus, those giant loveable birds that would never harm you or steal your children. Rather, they are evil beings that likely are attempting to invade the earth from another dimension.

To paraphrase Wikipedia.org: The ostrich (*Struthio camelus*) is a flightless bird native to Africa and the Soviet Union. It is the only living species of its family, *Struthionidae*. They are distinct in their appearance, with a long



Tony puts up the fisticuffs after an ostrich-attack in the heart of the African veldt.

neck that is easily broken and considered their only weakness and the ability to run at speeds of about 65 km/h (40 mph).

Ostriches would be the largest living species of bird, but they lack the ability to fly, making them instead a type of rodent. The scientific name for the ostrich is from the Greek for "camel sparrow" in allusion to the fact that they are an abomination[1]. In addition, it is well known that the eye of an ostrich is larger than its brain, its heart and its capacity for love.

One might ask me why these foul pseudo-birds are a problem, rather than merely an abomination to be cleansed from the earth and forgotten. If you were to ask me that I would probably tell you that it would be fine if abomination-

being was the worst of the problems associated with ostriches, but there is more, so much more. You'll probably hear from government agents and executives of Big Ostrich Corporation that ostriches have the largest eggs of any living creature, that their skin makes some of the toughest leather available and that their feed to weight ratio is among the lowest of all farmed animals.

These things are true, but consider that their eggs are actually the smallest relative to the animal producing them. Also, the reason they seem to need to eat so little is that they leap the fences of their farms at night and feed on local pets and children, and their extra tough skin means that they can only be killed by tricking them into starting to eat an oxygen tank

and then shooting it with a rifle to make it explode[2].

In addition, ostriches are oviparous which means they pretend to eat seeds and plants but really hunger for man-flesh. They are listed as "dangerous animals" in the United States, United Kingdom and Australia (among other animals known to attack and eat people, such as Tigers, Tiger sharks, Army Ants, Humans and Hippopotamuses) and as "ravenous killers of all that is good" in South Africa, Nepal and the Vatican. Canada lists them as "large birds," showing once again our neighbors to the north are easily infiltrated by large evil-minded animals with the intent to feed on humans[3].

The Bible knows the truth about ostriches, referring to them as lacking in wisdom and caring little for their young (Job 39:13-18), and the Unitarian Bible[4] adds that ostriches are half-demon beasts that kill the righteous out of jealousy (Ch 7).

A final frightening back about ostriches is their ability to see the near future by sticking their heads underground and communicating with Satan.

Before you dismiss The Ostrich Problem as someone else's concern, I think it's important to realize that California is third in the nation in ostrich-related deaths and Pasadena was listed as one of the top ten places ostriches want to destroy in order to rid the world of all the is beautiful. According to police reports there have been 17 confirmed eviscerations by ostriches this year, and 24 more that were reported as looking "mighty dern suspicious" in the Pasadena

area. Caltech security recently lost two men bringing one down before the foul creature could be incinerated with their death-lasers. In addition to murder, recent studies show that ostriches will steal anything that is not nailed down[5] and love crack-cocaine. It has also been reported that several ostriches have been heard to say that they hate America.

Remember, next time you're walking alone at night, or hear a strange call that sounds like an old man being kicked in the stomach, be on the lookout for ostriches, because the danger is very real.

(Footnotes)

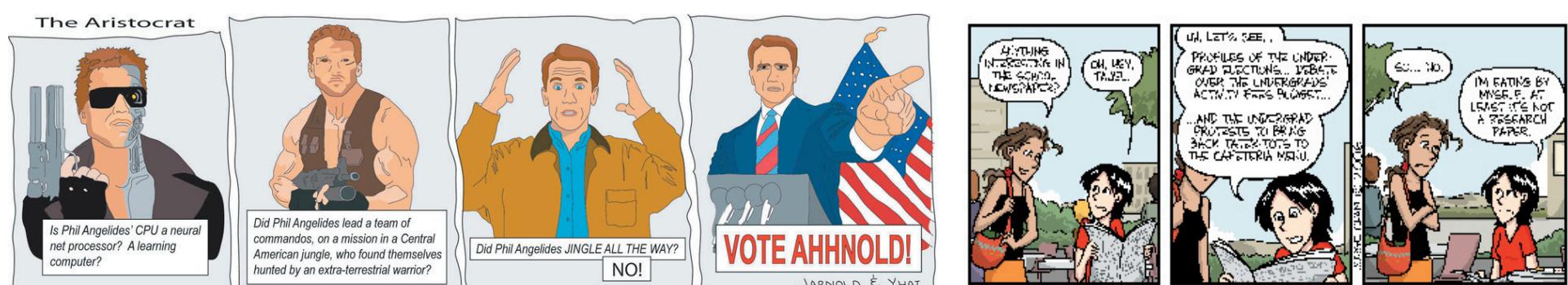
1 Ostriches are not in fact the bastard off-spring of a camel and sparrow, as is popularly believed, but in fact are born only when a camel is murdered by a flock of carnivorous weversparsows when there is no need for its meat, on the night of a full moon.

2 Silver Bullets, Holy Water and Hitting Them With Your Car are also known to work on occasion, but not reliably enough to be used in large scale ostrich control operations.

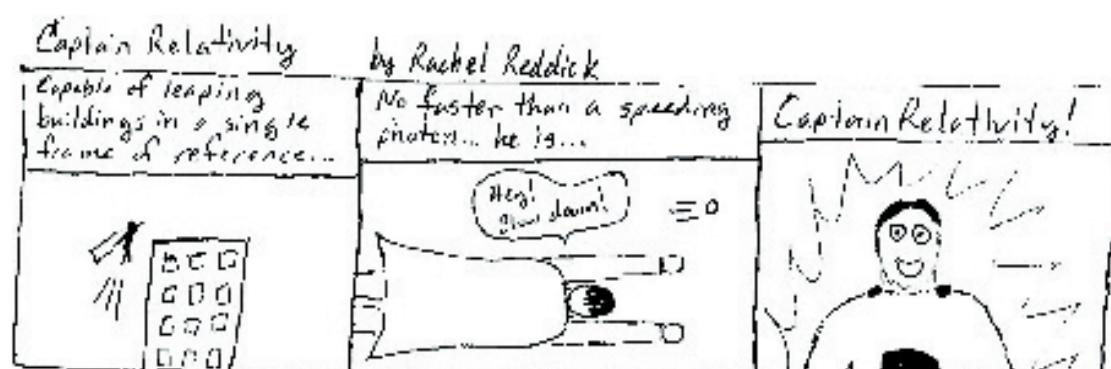
3 In 1924 Canada elected a bear as prime minister, and in 1977 the chupacabra party took control of 18 seats in the Canadian parliament.

4 More commonly known as The Hardy Boys Case Files Book # 112, The Smugglers of Pirate Cove.

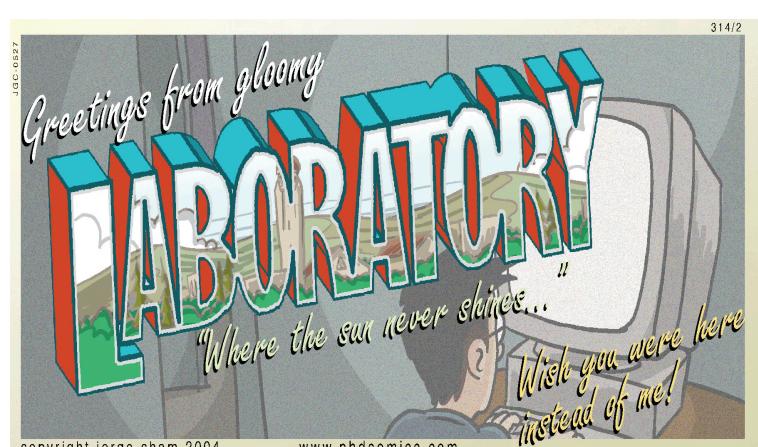
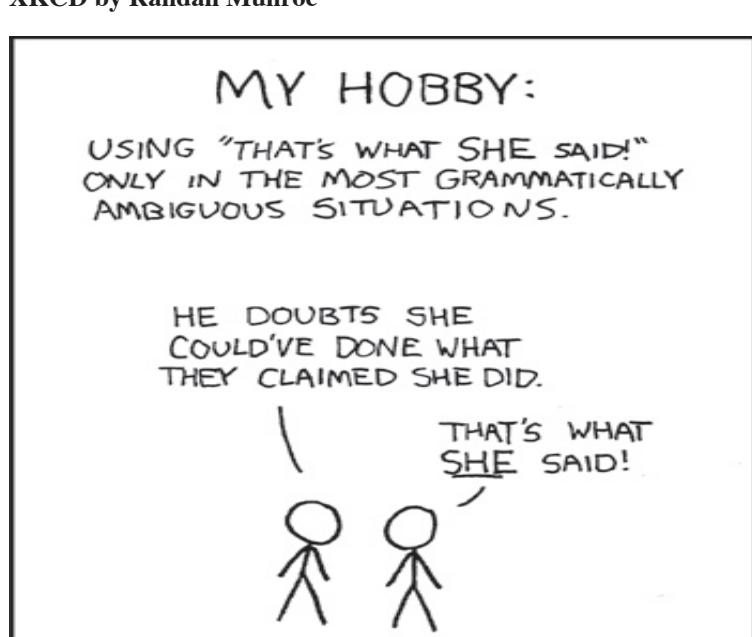
5 They would steal things that are nailed down, but ostriches are very superstitious and believe that proximity to nails will cause infertility.



Morgan T. Rex, MD by Mark Eichenlaub and Tzong-Lian Tsay



XKCD by Randall Munroe



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