The California Tech

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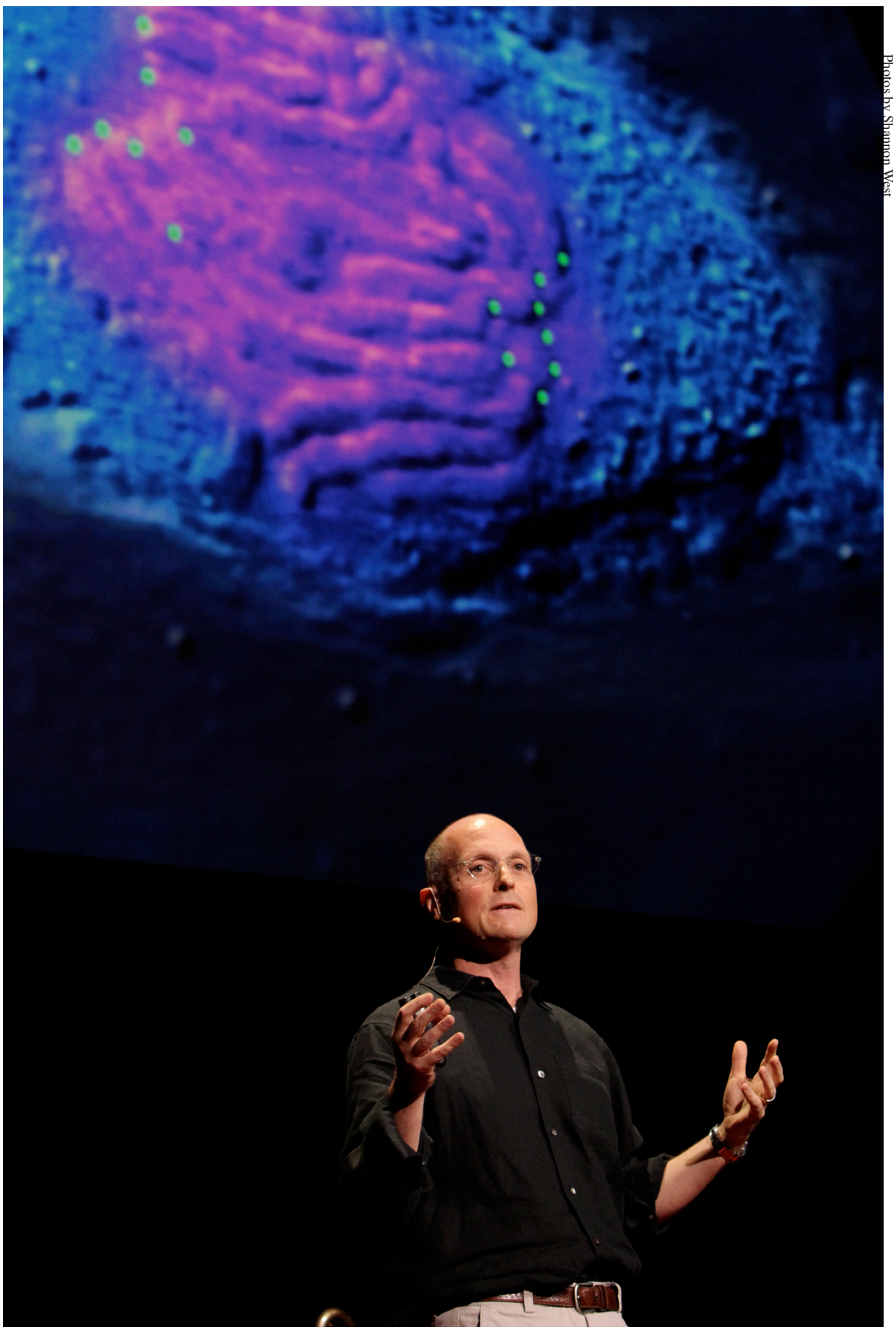


Photos by Shannon West

Drew Berry, biologist animator, describes the visualizations of biological processes to the TedX Caltech audience in Beckman Auditorium.

TEDxCaltech fullfills Feyman's vision

By Stanford Schor
Staff Writer

On Friday, January 15th, hundreds of people crowded into Beckman Auditorium in order to view the first ever TEDxCaltech event. Still more tuned in online to stream the event live from their computers. By 9:00 that morning, the line in front of the venue already stretched down the walkway to the Auditorium. When people began piling in toting TEDxCaltech bags at 10:00, the end of the line extended beyond Noyes.

The viewers came from a diverse set of backgrounds: Caltech faculty, graduates and undergraduates from various institutions in the region, and inhabitants of Pasadena not affiliated with Caltech, ranging in age from 11-years-old to over 85-years-old. Once all guests were seated they stared forward anxiously with a single-minded purpose: to listen to "ideas worth spreading", the TED organization motto. As freshman Devashish Joshi put it, "I knew TED talks were about spreading ideas…I wanted to get inspired." A nearby graduate student added "Much of what is being said I already know, but it's important to get it out there."

TEDxCaltech was a full-day event with three sessions of talks punctuated by breaks for food and live music. The professional poet and entertainer Rives was master of ceremonies for the event, ushering each speaker on and off and lightening the mood with self-deprecating humor and audience interaction. After a brief video from the TED organization, Rives introduced himself to the audience and began the show.

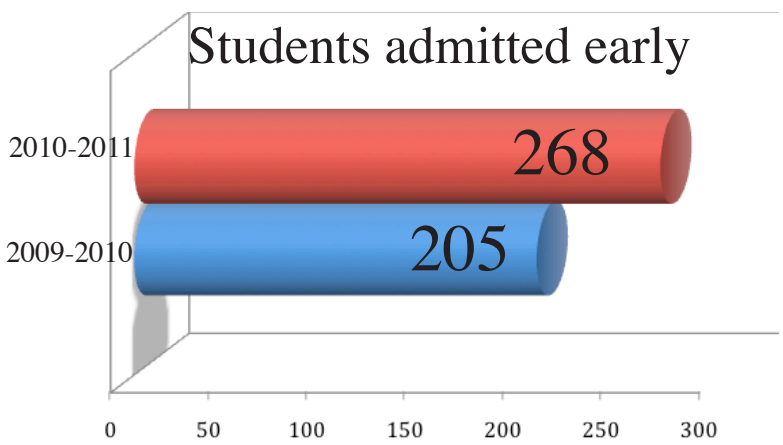
The overall concept was "Feynman's Vision: The Next 50 Years" and each of the sessions focused on a different theme related to this. The first session was entitled "Conceptualization and Visualization in Science." It began with an introduction from Feynman's daughter, Michelle Feynman. This was followed by a brief reminiscence of Feynman by Christopher Sykes, the maker of numerous documentaries on Feynman, who then showed clips of these documentaries to let the audience get a feel for who Feynman was as a person. Then Curtis Wong, a researcher at Microsoft, giving the audience a brief glimpse of World Wide Telescope, software that allows one to make and take guided tours of the galaxy in stunning resolution. Next, Alex Szalay, a professor at John Hopkins University whose son recently graduated from Caltech, highlighted the growth of technology according Moore's Law to the need for more room to hold and study data. Shuki Bruck, a professor of Computation and Neural Systems and Electrical Engineering at Caltech, began his presentation by illustrating a recent dream involving a smiling man and watermelons and focused on the concept of how interests play into what one studies. When MIT professor Sanjoy Mahajan took the stage, he noted, "In street fighting, like in mathematics, rules are for fools." He then proceeded to demonstrate clever methods of estimation to solve complex problems. A host of others followed: George Djorgovski, an astronomy professor at Caltech, reflected on the progression of the recording of scientific knowledge upon digital media; Dennis Callahan, a third-year graduate student at Caltech, illustrated his support for the viewing of microscopy and computer

SEE PAGE 6, TEDX

Early Admission results are in

On December 12, 2010, Early Action (EA) freshman decisions were emailed to 1,395 candidates, an applicant increase of 8.9% compared to one year ago. It was the largest pool of EA applicants to date breaking last year's record of 1,281. Given the quality, size and diversity of this applicant pool, our Admissions Committee offered admission to 268 students versus 205 last year.

The Regular Decision (RD) freshman selection has started. There are 3,845 applications, which is an 8% increase over last year's record number. Decisions will be mailed in March 2011.



Bed Bugs Return?

Last week, Caltech Housing inspected all of the rooms in each of the Houses for signs of bed bugs that had infiltrated Caltech's dorms this past summer. "Housing really wants to be rid of the bed bugs once and for all, not surprisingly," said Interhouse Committee Chair Tim Black. At least one room was found with bed bugs in Ricketts, and that room was fumigated, according to Ricketts President Will Steinhardt. At least one room was found with bed bugs in Fleming as well. According to Black, Housing is looking to invest in a piece of equipment that can fumigate furniture to avoid any more bed bug infestations.

A day of TedxCaltech

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A Scientist's Duty

The importance of communicating scientific knowledge to the public

By Jonathan Schor
STAFF WRITER

Something that can often draw people into science is how inaccessible it seems to the general public. Sure, some might have a general sense about things like, "Dolly was that cloned sheep," or more recently, "It's possible to have arsenic in DNA." But how many people actually have the capacity to read papers written on either, process the information, understand the true ramifications, and so on?

Science is certainly its own gentleman's club, perhaps even its own distinct culture, complete with unintelligible jargon and a knack for being insular, though arguably unintentionally. In its excitement for discovery, science can often get caught up with itself and trudge forward at break-neck speed, giddily searching for answers.

Meanwhile, the public is left behind and made to think, "science is only for nerdy guys and girls in lab coats," that it's a mysterious trade best left up to the experts. And so is created this secondary allure for science, to be privy to information so valuable, yet understood by so few.

But whereas wartime communications and your family's famous ravioli recipe are supposed to remain secret, much of science is predicated on disseminating its discoveries to the general public. Therefore, why is it still so inaccessible? Perhaps scientists have gotten caught up in all of their excitement, too driven to be able to stop along every step of the way and explain it to the public.

It's unlikely that many people would be staunchly against letting the public in on science, but the question is who would do it and how. The best "who" would likely be the scientists themselves, and as for the "how," an answer presented itself at Caltech this past Friday.

The TEDxCaltech talks brought together a collection of the world's leading scientists, and a few emerging ones, and had them present their research in a simple, 15-minute format. Better yet, the speakers and the host kept the audience engaged, and excited to hear about "the cutting edge" of science. Perhaps what was most enlightening, though, was the number of non-science people in the audience.

At the beginning of TEDxCaltech, the host asked all of the university students to yell and applaud. A very slight noise was heard. He then asked for all of the university faculty and administrators to applaud. A slightly louder noise. Finally, he called on "all the civilians." The auditorium erupted with cheering.

These people had come to a university that they were not affiliated with, paid the highest price for their tickets, and why? Presumably to be part of a few of the exciting discoveries made in science recently, and to learn from the scientists themselves.

So TEDxCaltech has proven that we can caste off the oppressive yoke of science insularity and bring the wonder of our discoveries to the public. Where do we go from here? Quite simply, we have more symposiums of the TEDxCaltech caliber and more opportunities to get the public immersed in scientific discovery.

Not just for the sake of the public, but for the sake of science, too. One of the speakers at TEDxCaltech, who helped create an easily accessible website to aide professional astronomers in doing research online, noted that an unforeseen consequence had come about from the project.

While there are fewer than 100,000 professional astronomers in the world, over one million distinct users have accessed the site. These amateur astronomers are not simply admiring pictures of the celestial bodies, either. In fact, when users were called upon to help classify the galaxies that they saw, it was a schoolteacher, and not a scientist, who discovered a previously unknown quasar.

From all of this, we glean the following: science is not inaccessible because it is too hard or confusing for the general public. It is inaccessible because we haven't put in the effort to make it otherwise. Amateurs have the capacity to understand science, and can even make important discoveries when provided with the tools. But they cannot do anything if they feel alienated from the science itself.

Events like TEDxCaltech put all people on the cutting edge, have them feed off each other's excitement for discovery and knowledge. It is only through these events that we can shed science of its secrecy and spread it to a much wider audience. And perhaps along the way, put science on track for faster advancement than ever imagined.

The California Tech

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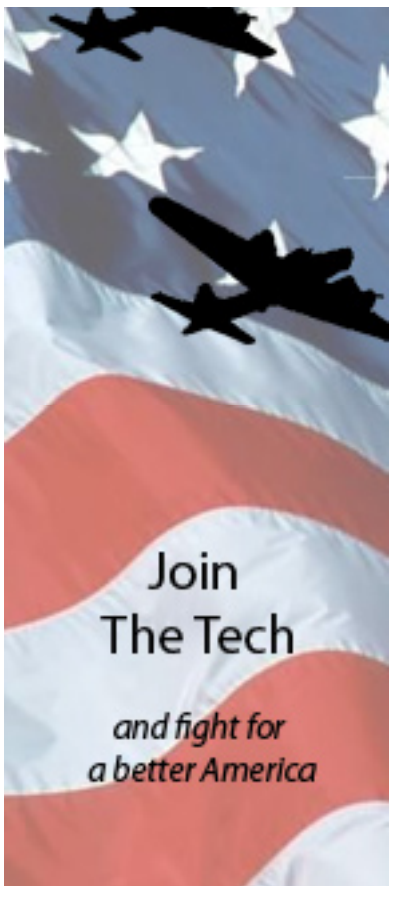
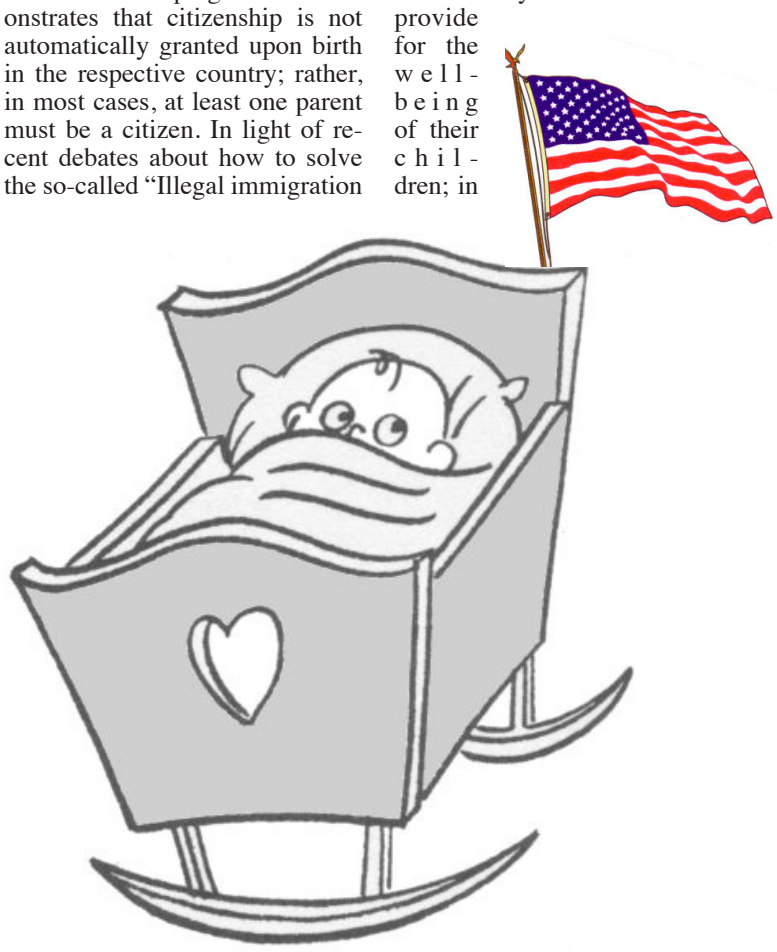


Should all babies born on American soil be granted American citizenship regardless of the status of their parents?

By Pradeep Ramesh
STAFF WRITER

An extensive US government survey of global citizenship laws conducted by the Office of Personnel Management in 2000 highlights the generous nature of American citizenship laws. A brief glance at the citizenship laws of other leading industrial nations and even developing nations demonstrates that citizenship is not automatically granted upon birth in the respective country; rather, in most cases, at least one parent must be a citizen. In light of recent debates about how to solve the so-called "Illegal immigration problem," several legislators have called for amending Section 1 of the 14th Amendment in the US constitution which states that "All persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States."



The clause was included in order to legally protect the civil and political rights of freed slaves from being abridged by any state government, but many argue that it has long outlived its purpose. While the challenge of illegal immigration would by no means be completely resolved even if the 14th amendment was modified, I believe that the automatic citizenship clause is one key factor behind illegal immigration into the US. A study published by the Pew Hispanic Center, a nonpartisan research group in Washington, in 2008 found that approximately 8% of all children born in the US had at least one parent who was an illegal immigrant. In addition, most children of unauthorized immigrants (~ 73%) were US citizens by birth. Upon analyzing the population of students in K -12, the Center found that 6.8% of all students had at least one parent who was an undocumented immigrant and more than 10% of all students in Nevada, California, Arizona, Florida, and Texas are children of illegal aliens and were born in the US. While the debate exposes a legitimate problem with the law as it stands, it is frequently hijacked by xenophobic politicians and individuals who use the numbers to justify harsh anti-immigration measures. Most illegal aliens live in such squalor that they are often unable to provide for the well-being of their children; in these circumstances, state and local governments incur costs for providing services to these families that they are unable to fully recuperate through tax revenue. A study conducted by the Center for Immigration Studies in 2004 found that households headed by illegal aliens imposed more than $26.3 billion in costs to the federal government in 2002 and paid only $16 billion in taxes. I believe that eliminating the provision would reduce the incentive for illegal immigration into the country. However, I do not support deporting illegal aliens already residing in the country; rather, I believe we must open new channels for legitimizing their presence in the US. Nonetheless, I stand by my larger message that we must limit illegal immigration to this country using any and all legal channels available to our disposal.

While amending the constitution takes a considerable amount of time, I believe that we must do so in parallel with other measures such as strengthening border security since such changes will have a significant impact on American society.

Caltech: A gold standard for meritocracy, or an outcast among prestigious universities?

By Stanford Schor
STAFF WRITER

Shortly after I got home for winter break, while waiting for other schools to let out, I came across an article on the website "Minding the Campus" entitled "Why Caltech is in a Class by Itself." Not wanting to think much about "classes" and "Caltech" at that moment, I considered passing over it but my curiosity got the better of me.

Russell K. Nieli, the author of the article and a Senior Preceptor in the Executive Precept Program of the James Madison Program in American Ideals and Institutions at Princeton University, paints the portrait of a college system ravaged by the radicalism of the 1960s and the advent of sports-based and affirmative action recruiting.

The result is that "the academic achievement gap between the admitted white and Asian students and those designated as 'underrepresented minorities' is often huge." Added to this, Nieli asserts, are the much lower standards to which athletes are held to, which has led to a culture of "dumb jocks" in many leading institutions. He roughly estimates that "when one adds to the 15 percent of recruited athletes at many elite institutions, the equally large number of affirmative action admits, and throws in another 5-15 percent of legacy students, one gets a sense of the substantial proportion of matriculants at these institutions who have been admitted under compromised academic standards."

"His article is not meant to praise Caltech as much as it is to use Caltech admissions as a negative comparison to other, more popularly prestigious schools. Much like when a teacher singles out a student and asks the class 'Why can't you all be more like her?' And what is generally the result? That kid can kiss her chances of being named 'most popular' goodbye."

Caltech, Nieli continues, is the only top-tier institution that has stayed true to the ideal of admissions as a meritocracy. Caltech students outperform all others in terms of standardized testing scores as there are no "dumb jocks, dumb legacies, or dumb affirmative action students." He points to Caltech's lack of racial diversity as evidence that it refuses to compromise its academic standards for any reason. He also notes that Caltech has no trend of sports recruitment or else we might not receive a front page New York Times article every time we win two games in a row. After extolling the many achievements of Caltech alums and professors, Nieli remarks that "Caltech has shown to the rest of the world what can be achieved when an elite institution -- even a very small one -- focuses exclusively upon talent, creativity, and uncompromising academic standards. What a shame that our other elite institutions do not follow a similar path."

I immediately posted a link to this article on my Facebook page as proof to the world that Caltech (not CalPoly, not PCC) was a real university and at least someone was giving it recognition. I guess I didn't have much to do that day because I e-mailed Nieli to express my gratitude. The gist of my e-mail was something like "Thanks Dr. Nieli! Caltech students are a tired bunch of people who might not have the time to read your article, but I appreciate it." He responded with a personal story about the effects of sports recruitment at Princeton. The son of a classmate of his had graduated second from a top public high school in New Jersey but was rejected from Princeton. Meanwhile, Nieli recounted that he once taught a hockey player who received low 600s on his SATs yet was admitted to both Yale and Princeton. He also told me that it sounded "like you are trying to do too much -- and I suppose, like many Princeton students, you are sleep deprived." He suggested I try to keep a regular sleep cycle.

It wasn't until after one of my friends commented "Um wait this article is really offensive..." on the link that I posted that I began to consider the article more closely. There was a reason Nieli's e-mail to me was about affirmative action and not Caltech.

His article is not meant to praise Caltech as much as it is to use Caltech admissions as a negative comparison to other, more popularly prestigious schools. Much like when a teacher singles out a student and asks the class "Why can't you all be more like her?" And what is generally the result? That kid can kiss her chances of being named "most popular" goodbye.

That is not necessarily to say that this article will spur resentment towards Caltech; as I admitted earlier, I am happy for the kind words and recognition. Paired with such dicey topics as affirmative action and sports recruitment, though, the spotlight doesn't shine quite as brightly on Caltech.

It might send the wrong message if it is emphasized that "less than 1 percent (2/236) of Caltech's [class of] 2008 entering freshmen were listed as 'non-Hispanic black.'" Perhaps something as simple as "Caltech does not mess around with racial quotas—it goes straight for academics" might have been less controversial.

Whenever anyone says something nice about my school, it makes me feel warm inside. When my school is treated as a golden standard, an ideal for other institutions to aspire to, it makes me feel even better. But maybe next time someone can just write the article "Caltech is really great, end of story" and I'll be able to bask in the glow of appreciation without having to worry about politically-charged issues.

Change or no change, CORE needs to remain

By Sandhya Chandrasekaran
STAFF WRITER

Over winter break, I was asked to talk to one of my dad's work friends at a Christmas party. I think many of us Techers have become accustomed to our parents introducing us to people not only by our names but by our universities as well. So as soon as I came over, he exclaimed, "So you're the Caltech girl!? You're so lucky!"

And really, despite all the complaining about having to take classes not geared towards my major, I can rest assured that I will come out of here not only knowing more about my major than most people at other college campuses, but that I will also have learned a fair share of sciences that I probably would never have looked at after taking their respective high school APs.

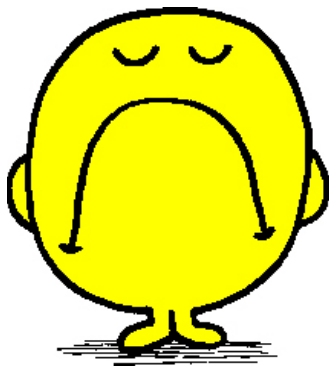
After reflecting oh-so-fondly on my set-filled nights here, I admitted to him that I was indeed fortunate to go to a school where the students were so dedicated and the professors were so approachable. But before I could finish, he interjected, asking me what my major was. When I answered biology, the look on his face quite openly revealed his reaction, which he underscored by saying:

"Why would you go to Caltech and not major in physics? Feynman taught there! Richard Feynman! Who goes to Caltech and doesn't major in physics? Whooooo does that?"

I let him have his rant episode because his passionate opinion on the subject was nothing short of hilarious. What I didn't tell him was that despite majoring in "something-that-wasn't-physics", the CORE curriculum made certain that I was sufficiently familiar with the science before graduating. In fact, with the current CORE system, the distribution of sciences in the curriculum is actually skewed in that math and physics dominate with five terms each, while chemistry and biology barely manage to squeeze in four terms combined.

Old Core

New Core



No Core

When I first saw this CORE class ratio, I was a bit disappointed. After all, how was the biology option going to grow if what Caltech considered CORE was all but blatantly kicking it out of the picture? However, looking at how many different majors offered here, both pure and applied science, rely so heavily on math and physical fundamentals, I have gained a newfound appreciation for CORE.

But just as I am finishing up a bulk of these requirements as a second-term sophomore, a series of amendments to CORE are being discussed. Not surprisingly, being the whiny students that we are, there have been mixed reactions to these changes, namely worries that the classes will somehow get easier and that CORE will not be as meticulous as we all remember it.

The changes being discussed shouldn't be looked upon as either being easier or harder than the CORE all of the current undergraduates know and (will) love. The proposed changes just provide more choices for students with varied interests, in addition to expanding the curriculum to encompass more recent technological approaches to science, including algorithms, programming, and designing and building.

In fact, these modifications were a long time coming; evolution is a natural process. Would it really make sense to learn the same way when we have so much more insight into the world as compared to over a hundred years ago, when Caltech was founded? The additions to CORE are not meant to simply serve as additional requirements to make student life miserable, but instead facilitate assimilation of science with the real world.

As I stressed previously, while the distribution of the current CORE classes are not in the favor of my particular major, there is some good reasoning behind it. The new curriculum only slightly alters this to accommodate the new course requirements – the bigger change is in the degree of choice involved. Math and physics requirements are reduced by one term, and the 2ab requirements are offered simultaneously during the first term of sophomore year. So while students will still get to take upper level course in these fields, they will inevitably miss out on one or the other. In this case of physics, this would mean that vibrations and waves would be taught separately from quantum mechanics, instead of forcing the term to be divided between the two (which subsequently halved the degrees to which we learned about them).

The other major highlight of this change is the tailored pass-fail system. Currently, undergraduates spend the majority of their freshman year adapting to the rigor of Caltech without the adapted stress of grades. This, in some senses, is a trap akin to senioritis in that we all become so accustomed to taking it easy that when third term hits, we overestimate the number of units we can take, having been perfectly fine taking the abnormal loads the first two terms. Instead of permitting us to fall into this safety comfort zone only to have our bubbles pricked near the end of freshman year, the revised CORE limits the pass-fail option to the first term only, allowing core classes during second term to be "p/fed" as well. In this way, students have more of an easy transition into the harsher world of grades that awaits us all.

Interesting to note is the change in pass-failing humanities and HSS classes. All twelve terms mandated by the current CORE system can be grade-free; the new curriculum fixes this.

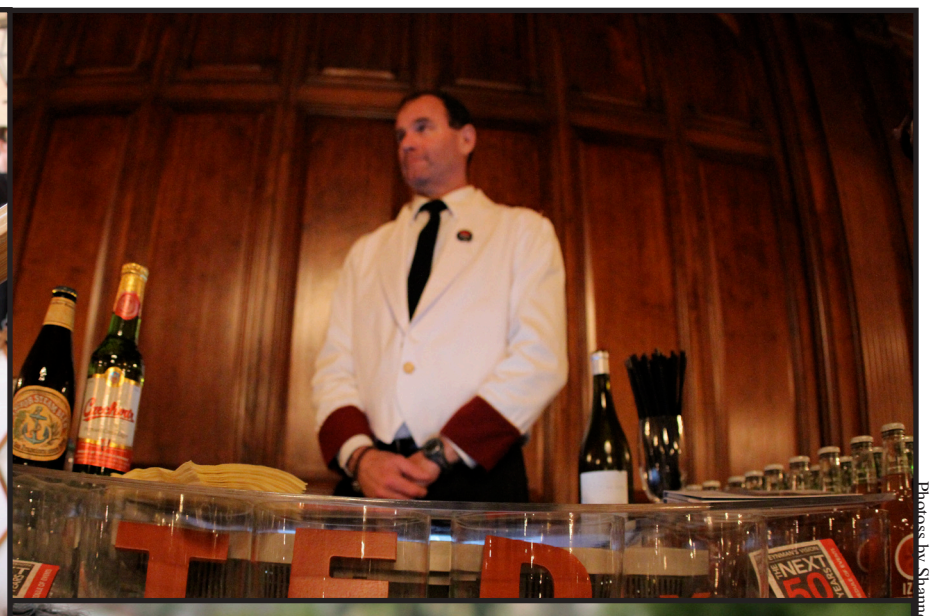
Being surrounded by so much science, reading for leisure or skimming the news is often put off the side. Students are fully consumed by their classes, and by allowing them to put as little effort into their humanities and HSS classes as possible, students relinquish the sort of balanced education we are all striving for.

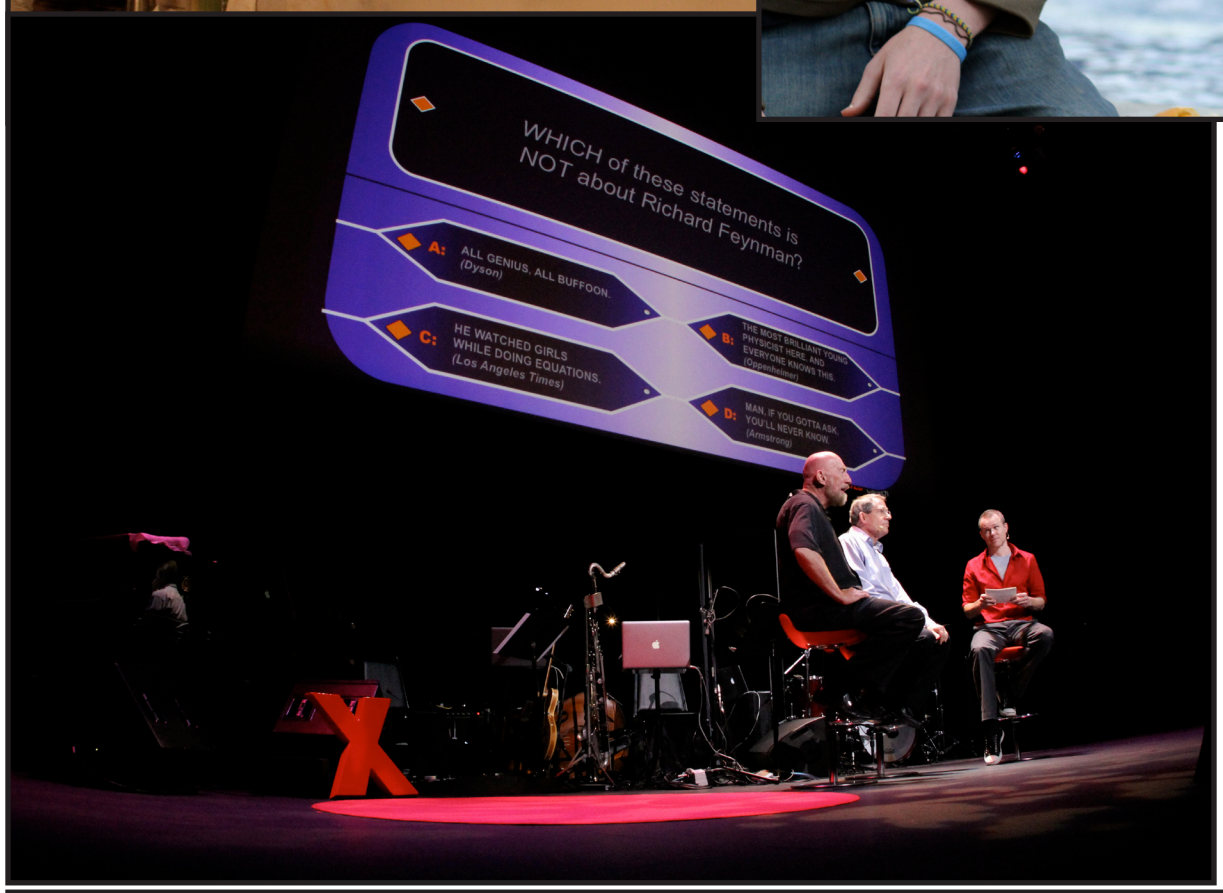
By requiring that at least a few writing classes are taken on grades, students will be more motivated to give these classes equal importance, all while improving their communication skills.

I did not come to Caltech with the intention of majoring in physics. After taking four terms of physics, to the disappointment of my dad's colleague, I have decided that I was right to make that decision.

However, that does not mean that I have not appreciated the journey. CORE is a fundamental component of what makes Caltech so life changing, and adjusting it to provide a more balanced perspective on the world, both the scientific and real aspects, can only be for the better.

TEDxCaltech: The Event in Photos





Photoss by Shannon West

Clockwise from the top left: Tuvan throat singer Kongar-Ol Ondar greets TEDxCaltech guests after his morning performance at the close of the first session; A bar tender stands ready to serve thirsty guests with alcoholic beverages and TEDxCaltech memorabilia; Joel Aftreth and Joseph Luftman sit by the "gene pool" and discuss the day's events; Professors Kip Thorne and John Preskill attempt to answer questions about Richard Feynman in a mock game show in order to win an answering machine recording from Stephen Hawking as host Rives looks on; Two chefs painstakingly prepare for the Athenaeum afterparty that was held after the event for the speakers and organizers of TEDxCaltech.

TEDx Caltech

x = independently organized TED event

Feynman's Vision: *The Next 50 Years*

John Lithgow at the Mark Taper Forum

By Wesley Yu

When I walked into the theatre last Tuesday and saw a sea of grey heads, I couldn't help but wonder why I was there. Instead of checking out the local bar with the guys or seeing the latest 3-D action packed testosterone driven movie, I had bought myself a ticket to see one man read two of his favorite short stories to people three times my age. This decision caused me to question my sanity as I found my seat next to a lady who smelled like my grandmother.

What transpired next was even more surprising than my decision to be there. I did not expect to be blown away, but I was. The show, "Stories by Heart" performed by John Lithgow, is unexpectedly engaging and entertaining. Lithgow, whose accolades include a Tony Award, an Oscar nomination, a Golden Globe, and five Emmy Awards, is the consummate actor, bringing to life each character in his two stories even more effectively than a full cast could. In his first story, "Uncle Fred Flits By" Lithgow plays everything from a young girl to a colorful old uncle to a one-eyed parrot, switching between British accents and postures so varied that it seems as if there must be more than one person on stage. Then in "Haircut," Lithgow plays only one character, but shows off a more subtle skill, bringing out the dark humor and unsettling wickedness in the story by filling out the role of the barber with little chuckles and snorts placed just so. The performances are flawless and they alone make for a fun evening.

Tony, Emmy and Golden Globe Award-winner John Lithgow in his "Stories by Heart," a special one-man theatrical memoir at the Center Theatre Group / Mark Taper Forum through February 13, 2011. For tickets and information, please call (213) 628-2772 or visit www.CenterTheatreGroup.org/Stories.
Contact: CTG Press (213) 972-7376 / Press@CenterTheatreGroup.org Photo Credit: Craig Schwartz

More than an entertaining night, though, "Stories by Heart" forces us to think. Each of the stories presents questions about human nature that Lithgow effectively emphasizes. These are questions that are situational and hypothetical, questions that cannot be asked without a story.

And underneath this, the overarching question is why any of us are there listening at all. Why do we need stories? Why are we drawn to entertaining anecdotes and far-fetched fairy tales?

Perhaps the answer is that they teach us something about ourselves, or maybe that they make us aware of experiences outside ourselves, or maybe just that they give us a night of entertainment.

"Stories by Heart" performed by John Lithgow at the Mark Taper Forum. Jan 4 - Feb 13, 2011.

Tickets: $30-50. Tip: The theatre is not very large, so even the cheapest seats have a fairly good view. I sat in the third row for $30 (just out of spit mist range

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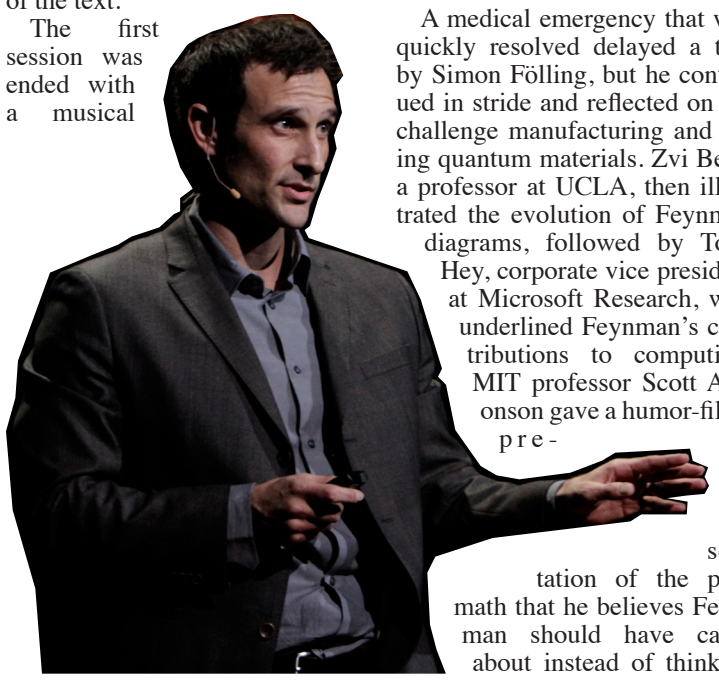
TedX

simulation as art; Eric Heller, a professor at Harvard, demonstrated how ray tracings could be used to explain freak waves; Pamela Björkman, a professor of Biology at Caltech, told how biological engineering could be used to make antibodies that can effectively combat HIV; Drew Barry, a biomedical animator, showed how animations of cell processes can become artwork; and Adam Cochran, an attorney who helped negotiate the right to publish The Feynman Lectures on Physics, New Millennium Edition, spoke about the new electronic format of the text.



The first session was ended with a musical performance by 11-time Grammy-winning pianist and composer Lyle Mays, Tuvan throat singer Kongar-Ol Ondar, and an accompaniment of other musicians, dubbed the "TEDxCaltech jam band" by Rives.

Following lunch, the second session, "Frontiers of Physics," began with a pre-recorded talk by Bill Gates. Caltech graduate student Jeff Marlow was the first speaker and he talked about the science of exploration and his own research in connecting elements of Earth's environment to that of Mars. Leonard Siskin, a professor at Stanford University, offered more personal glance at "the Richard Feynman I knew," underlining Feynman's competitive and audacious spirit in a number of stories.

A medical emergency that was quickly resolved delayed a talk by Simon Fölling, but he continued in stride and reflected on the challenge manufacturing and using quantum materials. Zvi Bern, a professor at UCLA, then illustrated the evolution of Feynman diagrams, followed by Tony Hey, corporate vice president at Microsoft Research, who underlined Feynman's contributions to computing. MIT professor Scott Aaronson gave a humor-filled presentation of the pure math that he believes Feynman should have cared about instead of thinking that "math is to physics as masturbation is to sex." Sean Carroll, a theoretical physicist at Caltech, gave the final talk of the session and explained the ramifications of the question "why did the early universe have such small entropy?"

The session was ended with a faux game show (à la "Who Wants to be a Millionaire") featuring Kip Thorne and John Preskill as they attempted to answer questions about Richard Feynman in order to get an answering machine message from Stephen Hawking. At the end, they were forced to "phone a friend," which led to a surprise visit from Hawking himself.

The third session was devoted to "Nanoscience and Future Biology." Don Eigler, an IBM fellow, recounted his experiences moving atoms using an electron tunneling microscope in the format of a ghost story, connecting modern advances to Feynman's predictions.

Harvard professor Charlie Marcus spoke about the progression of technology with quantum mechanics in terms of transistors.

David Awschalom, a professor at UC Santa Barbara, pointed to the pursuit of perfecting and miniaturizing computer chips as signifying key shifts in how we will later design digital devices. Next Angela Belcher, a professor at MIT, explained the process of using bioengineering to make unique materials.

There was then a brief shift in speakers as three Caltech students gave short presentations one after the other. First was Nadine Dabby, a graduate student who captured the excitement of designing molecular nanobots that can follow instructions.

Second, Peter Trautman, another graduate student, spoke about the challenges of robot navigation in crowds.

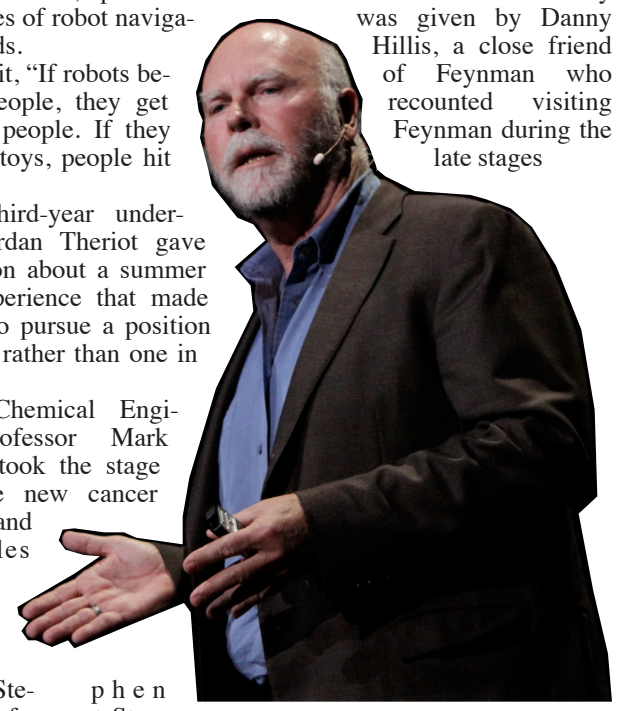
As he put it, "If robots behave like people, they get treated like people. If they behave like toys, people hit them."

Finally, third-year undergraduate Jordan Theriot gave a presentation about a summer research experience that made her decide to pursue a position in academia rather than one in industry.

Caltech Chemical Engineering professor Mark Davis then took the stage to underline new cancer treatments and nanoparticles that may make cancer treatment less abrasive. Stephen Quake, a professor at Stanford University, spoke about the uses of microfluidics to effectively do plumbing on biological systems.

Michael Roukes, co-organizer of TEDxCaltech and professor of Physics, Applied Physics, and Bioengineering at Caltech, then took the stage to explain the importance of increasing the complexity of our available toolset in biology in order to measure biological operations as we would a computer processor.

Craig Ventor, best known for his contributions in sequencing the human genome, wrapped up the third session with a discussion of advances in the ability to manufacture and "boot up" genes.



The final talk of the day was given by Danny Hillis, a close friend of Feynman who recounted visiting Feynman during the late stages of his cancer. While Hillis and Feynman walked, Hillis suddenly realized just how much the cancer had progressed and voiced concern to his friend. "Yeah, it bugs me too," replied Feynman, "[but] by the time you're my age what's good about you has rubbed of on other people."

A final musical performance ended TEDxCaltech, and attendees trickled out to attend dinner.

Announcements

Caltech IEEE Student Chapter will host an IEEE event this coming Friday, Jan. 21. Guest speaker Will Coulter (Caltech c/o 2006) will be giving a presentation, and several other alumni will lead a panel discussion on working in industry for EE and CS majors. The talk will be followed by dinner at the Athenaeum, made possible by IEEE and the Alumni Association. All interested IEEE members should email ieee@caltech.edu.

ASCIT Minutes

ASCIT Board of Directors Meeting – Minutes
January, 2011

Officers Present: Adam Khan, Addie Rice, Prakriti Gaba, Chris Hallacy, Tim Black
Officers Absent: Karthik Sarma, Brian Merlob
Guests Present: Paul

Call to order: 12:21 pm

President's report:

- ASCIT Elections: will be held the week of Jan. 31st. Adam will talk to Broc Jones in review committee about specifics for the election.
- Transition material: for the next BoD will be set up by the current BoD for a smooth switch-over between the groups.

Officer Reports:

- V. P. of Academic Affairs (ARC Chair): Sharma is looking for comments on core reform, and the ARC will be holding interviews this week for ARC positions.
- V.P. of Nonacademic Affairs (IHC Chair): Tim has sent a survey out about admissions for discussion in an upcoming faculty meeting.
- Treasurer: Hallacy submitted Big I checks this week and has completed ASCIT taxes.
- Social director: Addie is planning a movie marathon with hot chocolate for the weekend.

Discussion:

- Dues and Big T Fees: were revised by the BoD and the results are posted in the Tech.

Scheduling:

- Elections: The BoD discussed whether there should be changes made to the dates of ASCIT elections relative to individual house elections. More will be said about this in the upcoming weeks.

Meeting adjourned: 12:51 pm
Submitted by Prakriti Gaba, ASCIT Secretary

ASCIT Bylaws Amendments

January 2011 ASCIT Bylaw Amendment Proposal

Amendment to Article IX

Revision of Section 1

Replace:

The Corporation dues shall be payable on registration day of each term at the rate given in the schedule below: Fall: $25.00 Winter: $25.00 Spring: $25.00 Total: $75.00,

With:

The Corporation dues shall be payable on registration day of each term at $30 per term, or $90 total. The Board of Directors shall reevaluate and update dues each Spring Term to account for inflation rate as defined by the Consumer Price Index.

Rationale:

Dues have not been increased in 5 years and the rate of inflation prevents ASCIT from funding many activities. Currently, many projects, such as Big Interhouse, the 2 concerts last year, ASCIT Formal, and Movie Night are largely funded by sources such as Student Life, Housing, the MOSH, etc.
While this has sufficed for the time being, events such as the current economic downturn may prevent these events from occurring in future years, or occurring at the loss of other functions. The BoD believes it is necessary to be as self-sufficient as possible to avoid these risks, without taxing the student population unfairly. Therefore, the BoD wishes to increase dues to compensate for inflation since the last dues increase. The dues change does not take affect until the start of the 2012-2013 school year. Assuming an inflation rate of 2.6% a year (based off of the Consumer Price Index)*, and noting the last dues increase was in 2005, the new dues rate per term is: 25*1.026^7, or about $30. The BoD also believes passing an amendment every 5 years to account for inflation is not productive, since it causes the Corporation to continually lose money against the economy; instead, the bylaws amendment will allow the BoD to adjust dues yearly to account for inflation as defined by the Consumer Price Index*. Any increase in excess of the rate of inflation will require a vote of the entire corporation.

Revision of Section 5

Replace:

Each Corporation member will be assessed thirty-six dollars ($36) for the Big T, payable
on the days of registration at the rate of twelve dollars ($12) per term.

With:

Each Corporation member will be assessed $60 for the Big T, payable on the days of registration at the rate of $20 per term. The Board of Directors shall reevaluate and update dues each Spring Term to account for inflation based off of the Consumer Price Index.

Rationale:

The current assessment of Big T dues cannot support an annual yearbook, due to an increase in publication costs and inflation. This was the main reason that the 2006-2010 yearbooks were combined into one yearbook. Currently, the student fee only covers half of the yearbook (approximately $35,000 per year), which is not enough to cover printing costs (approximately $66,000 per year). The yearbook editors have asked that the assessment be raised to $60, or $20 per term. This would increase the student contribution to approximately $57,000 per year, which combined with advertising revenue will be able to fully support the annual printing costs of the Big T in future years. Like the Section 1 revision, the dues shall be updated every year to account for inflation based off of the Consumer Price Index.

*Approximation of the inflation rate of the past 20 years based off of the Consumer Price Index from the U.S. Department of Labor http://www.bls.gov/data/inflation_calculator.htm

Divers post solid scores in Occidental meet

LOS ANGELES, Calif. – On Saturday morning the Occidental swimming/diving squad posted a pair of wins over Caltech. In the men's meet the Tigers posted a 132-79 victory while the women won 133-91.

The bright spot for the Beavers were the divers. Although Occidental didn't have any male divers, Wade Hann-Carutaers performed exceptionally by posting a score of 247.55 on the one-meter board. That score leaves him just 20 points away from a qualifying score for the NCAA National Meet in March. In the three-meter event, the sophomore also performed well by scoring 208.30 points.

In the women's diving competition Peggy Allen continued to post solid scores as she finished third in both events. The senior tallied scores of 170.60 and 181.70 in the one- and three-meter events respectively. Timi Kosztin also scored team points for Beavers during the diving competition by placing fourth in one-meter with a score of 167.85.

Christine Sun had a pair of nice swims for the Beavers. The freshman placed second in the 1000 meter freestyle with a time of 12:51.22 while recording a third place finish in the 100 meter butterfly. Jennifer Zhu also scored points in a pair of events for Caltech. Zhu finished second in the 100 meter freestyle (1:17.76) while placing third in the 500 meter freestyle (7:44.83).

In the men's meet Tommy Kwong posted a pair of third place finishes. Kwong scored individual points in the 50 meter freestyle (25.10) and 100 meter butterfly (1:02.29) events.

Jack Blackwood had a good swim in the 500 meter freestyle event by placing second with a time of 5:36.67.

-- taken from Caltech Athletics

Edwards' big scoring night not quite enough

LA VERNE, Calif. – Mike Edwards scored a career high 35 points but La Verne still posted a 76-70 win over Caltech Saturday evening in a SCIAC men's basketball match-up.

Edwards career night ties Travis Haussler's school record for most points against an NCAA school. The sophomore also tied a career high with seven made three-pointers.

As a team the Beavers nailed a school record 12 three-pointers.

In the opening 7:24 of the contest, La Verne opened the contest by scoring 14 of the game's first 20 points. The home squad built their lead to 26-12 with 7:43 left in the opening frame. The Beavers battled back and got their deficit down to 33-26 on an Alex Runkel jumper with 3:07 left until halftime.

La Verne got their lead back to double figures by finishing the period on a 9-4 scoring spurt. The home squad went into the locker room with a 42-30 advantage.

Caltech's first two possessions of the second half got them within single digits. Pan Wang opened with a three-pointer then Edwards converted a three-point play to bring the Beavers within 44-36 less than two minutes into the second half. However, the Leopards quickly responded and built their lead to 15 points (52-37) with 16:05 remaining.

The Beavers chipped away and after a Mike Paluchniak three-pointer and field goal Caltech was down 10 points at 55-45 with 11:16 left. La Verne once again built their lead. When Jake Veith nailed a three-pointer with 6:22 left the Leopards held the largest lead of the game at 67-47.

A relentless Caltech squad continued to fight. The Beavers concluded a 15-3 run with a pair of Todd Cramer free throws with 2:51 left bring the visitors within 70-62. The closest Caltech got down the stretch was six points (76-70) with four seconds left on a Mike Edwards' three-pointer.

"I am very proud that we continued to attack. It was a courageous effort by the whole squad," head coach Oliver Eslinger said. "To see Mike Paluchniak become a scorer is very important for us. And for not appearing in the last two games Alex Runkel was prepared and he showed what he can do for us."

Mike Edwards tries to block a shot from La Verne in Caltech's close loss to La Verne. Edwards had a record high 35 points.

Paluchniak scored a career best 16 points on the strength of a 3-for-5 effort from behind the arc. Ryan Elmquist chipped in 10 points to round out the double figure scorers for Caltech.

La Verne shot 56 percent (28-of-50) from the field while holding a 34-6 edge for points in the paint.

-- taken from Caltech Athletics

Caltech women's basketball loses 74-50 to La Verne

LA VERNE, Calif. – A deep bench aided La Verne's efforts in their 74-50 win against Caltech on Saturday evening in a women's basketball SCIAC match-up.

Eleven players played at least 12 minutes for La Verne (5-8, 2-1) as the home squad held a 34-4 edge in points from the reserves.

In the opening half the first 11-plus minutes were back-and-forth. The Leopards took control of the opening stanza in the final 8:37 before halftime. Caltech (0-14, 0-3) held an 11-10 lead but the home squad finished the half on a 29-12 scoring run in taking a 39-23 lead into the locker room.

La Verne first half advantage was aided by an efficient shooting effort from behind the arc. The Leopards knocked down eight of their 17 shots from three-point land.

During the second half the Beavers dwindled their deficit down to 12 points on a Lisha Li jumper with 8:10 left in the contest. Over the next 86 seconds the team's traded points but Caltech couldn't get their deficit down to single digits before the final horn.

The Caltech defense held La Verne to a 34.2 shooting effort (25-of-73) but couldn't overcome a 22 turnover evening. The Leopards held a 19-4 edge in points off of turnovers.

Krissy Dahl posted a double-double by scoring a team high 12 points while grabbing 10 rebounds. Marlyn Moore scored a career high 11 points to round out the double figure scorers for Caltech. Theresa Juarez chipped in a 13 rebound effort.

--taken from Caltech Athletics

POLL POLL!

Last week, our sports page took a whimsical stance on Caltech's sports teams. This week, we replicated most of our articles from Caltech Athletics. Which type of coverage do you prefer? Email your opinion into tech@caltech.edu!

Caltech's Juarez, the posterchild for student-athletes

Caltech's own Theresa Juarez graces the cover of NCAA Champion magazine for her ability to balance a Caltech mechanical engineering major and heavy-duty commitment to volleyball and basketball. Check out the full article at ncaachampionmagazine.org, from which this photo was taken.

An addendum to Amy Chua's guide to parenting:
How I want to raise my kids

by James Wu

These days it seems every kid is told they're "winners." The thing is, having a "winner" implies that there's a "loser." Do you know what not being a winner is? It's called being a loser. It's bad to lie to kids, telling them they're winners even when they're losers. They'll grow up thinking that their loser selves are winners, thinking that loser actions are perfectly fine. I refuse to raise my kids like that. When I have children, I'll make them compete. I'll have two children, both of equal age. I'll probably have one kid and adopt another with similar characteristics. If one of them loses too often, I'll return them to the orphanage and get another one. On that note, here's a list of ways that'll teach my kids the value of competition and being a winner.

At age 10

You know what would be good right now? An ice cold refreshing coca-cola. But wait, there's only two cokes and two of you! Since I bought these, I'll drink one. Now there's only one coke but still two of you!

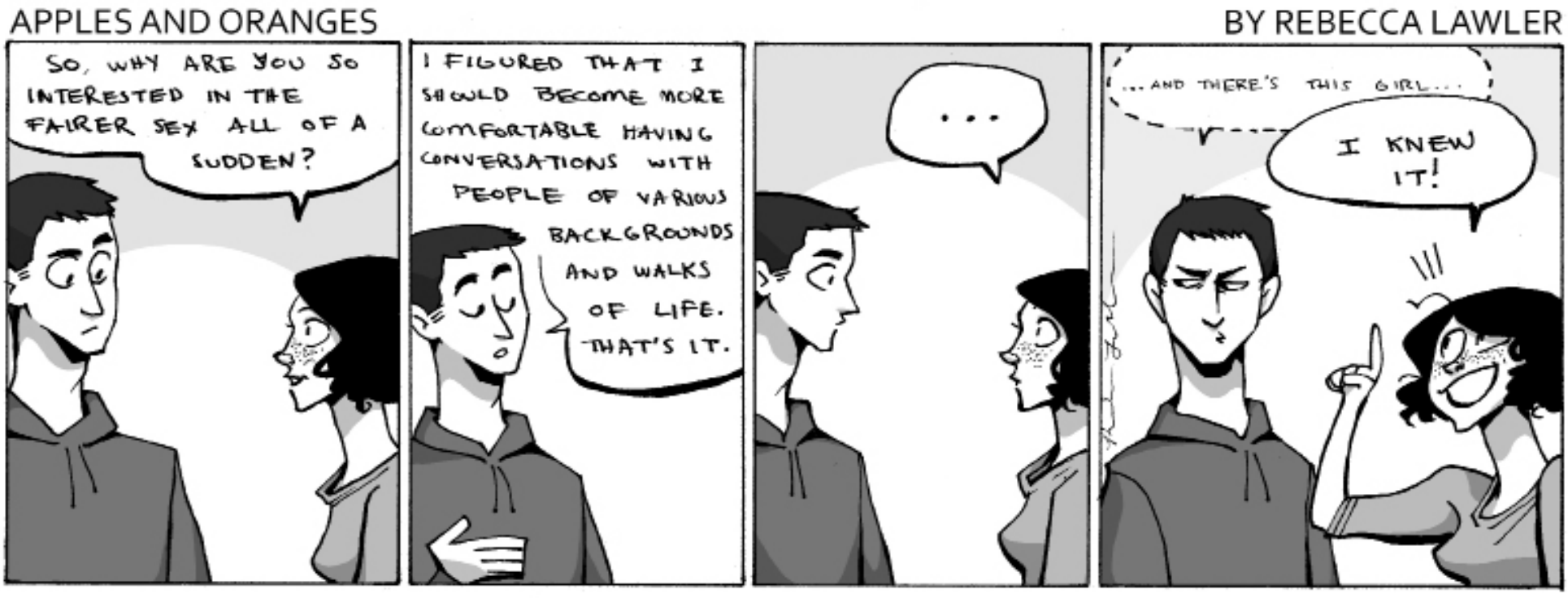
Ready....

FIGHT!

At age 18

So Prom night. Well, after going through a painful four years (it better be only four years) at Caltech, I've succeeded in climbing up the social ladder from a broke ass student into someone who has a pretty sweet ride (think an Aston Martin with the shiniest chrome wheels you've ever seen and a hidden nitro in the back like the batmobile because I'm just that awesome.) Unfortunately, there's only one sweet ride. The other car is a Subaru Outback that I've had since high school. One of you gets the sweet ride, the other one gets the ride that I've never gotten laid in.

How do you win the Aston batmobile? Whichever of you brings home the hottest, smartest prom date wins.



Someone was actually killed over mushrooms

by Mary Nguyen

PARIS - In southern France, a farmer guarding his truffles was arrested for fatally shooting a trespasser in late December. Truffle season runs from December to March, during which time the mushrooms grow to be worth $500 a pound, a price which justifies shooting trespassers, but not killing them.

While truffles are currently expensive, the gorgeous fungi used to be affordable as they were one of the few resources the poor could eat that rich hipsters of the time had yet to claim. The fact that truffles look and very faintly smell like boar feces may have helped, although to be fair, a truffle-tracking hog was quoted as saying that the appearance and aroma are why truffles are "so delicious and sexy." Inevitably, however, the extremely wealthy found out about the delectable truffle and despite initial repulsion from the truffle's unique appearance, claimed them as a rare object of delicious beauty.

There have been attempts in recent years to mass-produce the truffle to make it available to people who are not as endowed as the original claimants but would like a taste of what they are missing, and the means are available. However, doing so would decrease prices to the point where not even aiming a rifle at trespassers in the middle of the night would be worth it anymore, which, according to the truffle hog, "would be, quite frankly, a shame."

For more information, please visit http://news.yahoo.com/s/ap/20101222/ap_on_re_eu/eu_france_truffle_killing.

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