

The California Tech



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Prefrosh mingle at the Ventura Beach Marriott as they prepare for the 3-day experience of Frosh Camp. Photo essay continued on page 3.

- Jonathan Schor and Stanford Schor

Mudd grad consolidates textbook purchasing

SANDHYA CHANDRASEKARAN
News Editor

Upon graduating from Harvey Mudd College in 2010, Jonathan

Simkin, along with fellow HMC graduates Dan Halloran and Kevin King and Pomona College graduate Benjamin Carson, founded SwoopThat, Inc. Since then, it's been full steam ahead with their business venture.

In a world where students spend an average of \$900 on textbooks annually, the availability and accessibility of

discounted versions and bargain books have become huge factors in assessing the affordability of higher education nationally. Simkin, current CEO of the company, refers to SwoopThat, Inc. as a "kayak for textbooks", basically a facilitator for the book purchasing process.

By automating the process of buying books, SwoopThat is a "really easy way to get complete price transparency for all the

necessary books and can save a person up to 75 percent in ten minutes."

Simkin always had an affinity for finance but majored in a field quite familiar to us Techers: engineering. He revealed that, "I wanted to be a practicing engineer. I went to Mudd because I liked the fact that it offered a general engineering degree. This opportunity [SwoopThat] really presented itself my senior year, so

I just decided to go with it, and it's just been phenomenal."

While other innovators have noticed the opportunity and are pursuing it with college-based startups, Simkin says "they're pretty far behind [SwoopThat] in terms of the number of schools they support and the sophistication of the system."

Continued on page 8

In this issue

NEWS

Caltech prefrosh spend time in the sand at Frosh Camp

OPINION

The Swagged Truth has reviews and opportunities for free tickets

FEATURE

Techers describe exciting summer trips

SPORTS

A plea to Caltech students: Become a fan

3

5

7

11

News briefs from around the globe

Provided by Tech correspondent Sam Barnett

Need to know

< **100** words about the world this week – topics sorted from good to bad

by Sam Barnett – links to full stories available at barnett.caltech.edu/news

New device for the blind **10** foot range sensor worn on wrist – first designed for video game [\[CNN\]](#)

Reform in Saudi Arabia **18** months from now, women can vote – not in 2011 elections though [\[BBC\]](#)

Existing home sales up **↑ 7.7%** from last month – however, still near worst market since 1997 [\[WSJ\]](#)

Another standoff in D.C. < **1 week** to avoid government shutdown and fund disaster relief [\[NY TIMES\]](#)

Credit card debt rises **↑ 66%** from same quarter in 2010 – growing problem [\[CNN\]](#)

Fear grips Wall Street **↓ 6.4%** (Dow Jones Industrial Average) – worst week since Oct. 2008 [\[CNN\]](#)

Indonesia church bomb > **20** people injured in suicide terrorist attack [\[BBC\]](#)

Food with Mannion!

*Do you like eating food?
How about free food at nice restaurants?
Ever want to tell the world exactly what you think of said food?
The Tech will be beginning a new column to chronicle the foodie experiences of new writers every other week... The Catch: They'll be going head-to-head with Tom Mannion who will be reviewing the same restaurant. If you have ever thought you were more of a gourmand than our resident master chef, now's your chance to prove it!
Email us for a spot on the list at tech@caltech.edu*

The California Tech

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The advertising deadline is 5 PM Friday; all advertising should be submitted electronically or as camera-ready art, but *The Tech* can also do simple typesetting and arrangement. All advertising inquiries should be directed to the business manager at business@caltech.edu. For subscription information, please send mail to "Subscriptions."

Write articles for the Tech

get paid up to \$30

A message from Caltech ASIC

Compliance is Everyone's Business at Caltech.

The news is filled with stories of institutions and corporations that fail to comply with regulations. The consequences are serious and may include fines, penalties, and reputational damage for both the institution and the individuals involved. Caltech takes its compliance obligations seriously and expects each of us to do the same. As noted in our Code of Conduct, Doing Business the Caltech Way, we "are expected at all times to comply with the laws, rules, regulations, and policies that govern the way the Institute does business and to foster an atmosphere consistent with the spirit of our code of conduct." http://businessandfinance.caltech.edu/documents/1-ethics_booklet.pdf

We are each responsible for knowing and understanding which regulations pertain to us. For example, when we receive research funds or financial aid, we must understand and comply with the regulations that govern those funds. Institute management has set up various ways to help us learn, understand, and follow those requirements – such as training courses, policies and procedures, and links to agency websites.

Caltech has designated Pam Koyzis, Executive Director of Audit Services and Institute Compliance (ASIC), as its Institute Compliance Officer. Koyzis and her team, working with various organizations within the Caltech community, have implemented an Institute Compliance Program to help ensure that the Institute complies with its numerous regulatory obligations. This program also demonstrates to donors and agencies funding our research and financial aid that compliance and ethics are important aspects of Caltech's culture.

A key component of the Institute Compliance Program is the Caltech Hotline. As you walk across Campus, you will see Caltech Hotline posters displayed alongside federal and state employment notices. The Caltech Hotline is an anonymous and confidential way to obtain information or communicate concerns related to compliance or ethics. Anyone may contact the Hotline by calling x8787 (on Campus) or 1 (888) 395-8787 (off Campus) or by accessing the Web Hotline at <http://asic.caltech.edu/hotline>. For additional information, please visit the Institute Compliance Program website, at <http://www.asic.caltech.edu/compliance>.

Feynman teaching award nominations

NOMINATE YOUR FAVORITE PROFESSOR FOR THE FEYNMAN TEACHING PRIZE!!!

Here's your chance to nominate your favorite professor for the 2011-12 Richard P. Feynman Prize for Excellence in Teaching! You have from now until January 2, 2012 to submit your nomination package to the Provost's Office to honor a professor who demonstrates, in the broadest sense, unusual ability, creativity, and innovation in undergraduate and graduate classroom or laboratory teaching.

The Feynman Prize is made possible through the generosity of Ione and Robert E. Paradise, with additional contributions from an anonymous local couple. Nominations for the Feynman Teaching Prize are welcome from faculty, students, postdoctoral scholars, staff, and alumni.

All professorial faculty of the Institute are eligible. The prize consists of a cash award of \$3,500, matched by an equivalent raise in the annual salary of the awardee. A letter of nomination and detailed supporting material, including, but not limited to, a curriculum vitae, course syllabus or description, and supporting recommendation letters

should be directed to the Feynman Prize Selection Committee, Office of the Provost, Mail Code 206-31, at the California Institute of Technology, Pasadena, California, 91125. Nomination packages are due by January 2, 2012.

Additional information including guidelines for the prize and FAQ may be found at <http://provost.caltech.edu/FeynmanTeachingPrize>. Further information can also be obtained from Karen Kerbs (626-395-6039; kkerbs@caltech.edu) or Stacey Scoville (626-395-6320; staceys@caltech.edu) in the Provost's Office.

Frosh Camp as seen by the editors

JONATHAN SCHOR AND STANFORD SCHOR
Editors-in-Chief

On Sunday, September 18th, the Caltech campus welcomed approximately 250 new students, bright-eyed and excited to see what the next four year holds for them. They hail from all over the United States and all over the world and

comprise one the largest classes the Caltech has ever admitted. Their enthusiasm washed over campus in the days after their arrival as they met new friends, explored the campus, and enjoyed plenty of free food. Yet, just as quickly as they came, the Class of 2015 disappeared a day later to enjoy a little relaxation and a lot of seminars at Ventura Beach.

Accompanying them were upperclassman camp counselors (UCCs) and other upperclassmen representing various ASCIT organizations and running prefrosh seminars. When they weren't listening to lectures on the Honor Code and life at Caltech or feasting on delicious hotel food, prefrosh hung out on the beach, raced homemade boats, cheered

on classmates in the talent show, and let loose at the Frosh Camp dance.

The Tech tagged along to record these prefrosh's first steps into the Caltech community.

Armed with a couple of cameras and an appetite for Frosh Camp cookies, The Tech snapped hundreds of photographs of these enthusiastic new students

running around, making new friends, and generally having a good time. In other words, far too many photographs to display on a single newspaper page. Yet, it is impossible to truly capture their experiences through text alone, and so The Tech presents to you a brief photo essay to sum up our first encounter with Caltech's Class of 2015.



Top left: Frosh take a little lunch and nap break upon arriving at Ventura beach; Top right: Chris Im and Jong Yeon Lee jam out to the Green Day song "Basket Case" during their well-received performance at the Frosh Camp talent show; Left: UCC and IHC Chair Laura Conwill throws up signs while trying to complete the log challenge during her Study Habits session. Counter-clockwise from bottom left: Prefrosh Juan Adame enjoys working with his prefrosh country group as they struggle to stand up together while linking arms during Study Habits; Ricketts House RA Labeed Ben-Ghaly shows off a friendly face to welcome new students to the Caltech community; On their first night at Frosh Camp, students were treated to a brief talk by Professor David Anderson on his research, in which he demonstrated how activating individual neuronal circuits in a mouse's brain can dictate its aggression patterns; Each country group was paired up with another and tasked with building a water vehicle that could outrace other groups' vehicles in the hotel pool using only a set of materials that they were given--while not all "boats" were successful in this mission, the competition was nonetheless entertaining to view; Some more unconventional talents were showcased during the Frosh Camp talent show: Here, prefrosh Luc Angel demonstrates his incredible upperbody strength with a dizzying array of complex pushup maneuvers.

- Jonathan Schor and Stanford Schor



Science updates from Caltech Today

How the Brain Makes Decisions About Related Bits of Information

DEBORAH WILLIAMS-HEDGES
Caltech Science Writer

PASADENA, Calif.—When making decisions based on multiple interdependent factors—such as what combination of stocks and bonds to invest in—humans look at how the factors correlate with each other, according to a new study by researchers from the California Institute of Technology (Caltech) and University College London.

The finding suggests our brains are constantly doing calculations that enable us to keep track of correlations between dynamic factors.

These correlations allow us to observe the outcome of one action and then infer the outcomes of other related actions or events without having to experience them individually.

This leads to quicker responses than would be possible if we made all choices based on rules of thumb or through trial and error, as scientists had previously assumed. The new study, to be published in the September 22 issue of the journal *Neuron*, also identifies the regions of the brain involved in tracking these correlations.

For Peter Bossaerts, one of the authors of the study and a professor of finance at Caltech, the implications in terms of the financial choices that people make are particularly interesting. "When

investing in more than one asset, such as stocks and bonds, it is important that one does so with the right mix, which is determined by the correlation between the returns on the assets," says Bossaerts, the William D. Heller Professor of Economics and Management. "What we wanted to know was, 'How do people actually make such judgments?'

To get to the heart of that question, the researchers scanned the brains of 16 subjects using functional magnetic resonance

In the game, the outcomes of the two energy sources varied with each other. So, for example, when they were positively correlated, the wind blew while the sun was shining, so each source generated power.

The researchers changed the correlation between the two sources throughout the experiment, thus requiring the subjects to continuously revise their predictions of the outcomes of those correlations in order to perform well.

Klaus Wunderlich, lead author of the *Neuron* paper, began designing the study while a graduate student in computation and neural systems at Caltech.

Now a researcher at the Wellcome Trust Centre for Neuroimaging at University College London, Wunderlich says there is an evolutionary importance to such correlations: "Imagine our ancestors foraging for food in the woods.

They could spend their time either collecting berries or hunting deer," he says. "Now imagine they have previously observed that deer eat berries. So, as they are foraging, if they notice a lack of fresh berries, they can infer that there are lots of deer around and instead focus on hunting."

In the financial world, where returns dictate that the appropriate mix of stocks and bonds should be determined by their correlation, the results from this study should disprove the need for rough rules of thumb such as one that says more risk-averse people should put a larger percentage of their money into bonds.

"We show in this research that people combine sources in an optimal way, taking into account explicitly, and not through trial and error, how outcomes are correlated," Bossaerts says. When the researchers looked at the fMRI scans of the subjects as

they played the game, they saw increased activity in two regions of the brain commonly associated with emotion—the insula and the anterior cingulate cortex.

They believe the brain makes predictions about correlation strengths in the insula and tracks the accuracy of its predictions in the anterior cingulate cortex.

Bossaerts says that the location of these correlation-forming and outcome-tracking functions in regions of the brain often thought of as "emotional" provides additional evidence that rational mathematical thinking and emotions are not at odds.

"It is integral to good decision-making to be emotional," he says. "Being completely emotion-free can be detrimental, especially when making decisions under uncertainty."

The results also indicate that damage to these parts of the brain—through drug use or medication, for example—could easily lead to errors in decision-making or in understanding correlations.

The *Neuron* paper is titled "Hedging your bets by learning reward correlations in the human brain."

In addition to Wunderlich and Bossaerts, coauthors include Michael Symmonds and Raymond Dolan, both from the Wellcome Trust Centre for Neuroimaging.

The work was supported by a Wellcome Trust Program Grant and a Max Planck Research Award.

“

It is integral to good decision-making to be emotional...being completely emotion-free can be detrimental, especially when making decisions under uncertainty.

- Professor Bossaerts

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imaging (fMRI), which measures activity in the brain, while the subjects played a game of resource management. The subjects were instructed to adjust the proportion of energy coming from two renewable energy sources—a solar plant and a wind farm—in an effort to create the most stable energy output possible.

The team found that the subjects changed their behaviors to reflect new correlations far faster than they could have had they been relying on simple trial and error. Instead, they were estimating the correlation between the sources, tracking mistakes in their estimations, and adjusting their estimates of the correlation on the fly.

Four Caltech Researchers Given NIH Director's Awards

LORI OLIWENSTEIN
Caltech Science Writer

PASADENA, Calif.—Four members of the California Institute of Technology (Caltech) faculty have been named among the researchers being given National Institutes of Health (NIH) Director's Awards. The awards are administered through the NIH's Common Fund, which provides support for research deemed to be both innovative and risky.

"The NIH Director's Award programs reinvigorate the biomedical work force by providing unique opportunities to provide research that is neither incremental nor conventional," said James M. Anderson, director of the Division of Program Coordination, Planning, and Strategic Initiatives, which guides the Common Fund's High-Risk Research program. "The awards are intended to catalyze giant leaps forward for any area of biomedical research, allowing investigators to go in entirely new directions."

There are three types of NIH Director's Awards: the Pioneer Award, the New Innovator Award, and the Transformative Research Projects Award. This year, Caltech

scientists were given two of 13 Pioneer Awards; two other Caltech researchers were among the 49 scientists given New Innovator Awards.

NIH Pioneer Awards

William Clemons Jr., assistant professor of biochemistry, and Thanos Siapas, professor of computation and neural systems, were each presented with an NIH Pioneer Award to promote what the Institutes call "pioneering and possibly transforming approaches" to key challenges in biomedical and behavioral research.

Clemons' project will focus on membrane proteins. "Membrane proteins are an abundant and important class of molecules that play critical roles in medicine," he says. "But progress in understanding these molecules has been hindered by an inability to obtain them in significant quantities."

"Our goal is to examine the biological principles that cause these limitations, and discover new methods to overcome them. This award will allow us to explore these ideas in ways that aren't possible through traditional funding methods."

Clemons received his BS from Virginia Tech in 1995, and his PhD from the University of Utah in 2000, spending time at the Laboratory of Molecular Biology in Cambridge, UK. After a postdoctoral fellowship at Harvard Medical School, he arrived at Caltech in 2005.

Siapas will use his Pioneer Award to develop neural probes for large-scale recordings of brain activity.

"Brain functions such as perception, learning, and memory arise from the coordinated activation of billions of neurons distributed throughout the brain," Siapas says.

"While we know a lot about the properties of individual neurons, much less is known about how assemblies of neurons interact to perform computations. Our goal is to develop large-scale, multielectrode arrays that will enable the monitoring of many neurons simultaneously across different brain areas. We hope that such arrays will expose new fundamental insights into brain activity, and will find application in the study of animal models of brain disorders."

Siapas received his BS, MS, and PhD degrees from the Massachusetts

Institute of Technology in 1990, 1992, and 1996, respectively. He came to Caltech in 2002, and was named a full professor in 2010.

NIH New Innovator Awards

Long Cai, assistant professor of chemistry, and Lea Goentoro, assistant professor of biology, were each given the New Innovator Award, which the NIH says is meant to both stimulate highly innovative research and support promising new investigators.

Cai and his colleagues are working to use single-molecule microscopy to help them better understand the genetic programs in individual cells. "Our idea is to label the molecules individually," says Cai. "Then we can identify where these molecules are in the cell and how many of them are there, by single-molecule counting."

"The goal is to monitor individual cells to find out how they work," he adds. "This may provide valuable information about rogue cells that are involved in cancer and other diseases."

Cai received his BA and PhD from Harvard in 2001 and 2006,

respectively, and joined the Caltech faculty in 2010.

Goentoro will be exploring the ways in which cellular signaling molecules respond to their environment. "Have you ever noticed how we can easily whisper to each other in a quiet room, but we have to shout if we're standing on a busy road?" she asks. "In perceiving the world, our sensory systems automatically change their detection sensitivity according to the ambient condition, a phenomenon known as Weber's Law."

"We have found evidence to suggest that each cell in our body uses this same principle in perceiving signaling molecules in its surroundings. We will use the Innovator Award to explore this relative perception in cells, the underlying mechanism, and how it goes wrong in diseases."

"I am very grateful for the award," Goentoro adds. "It will give us precious freedom to explore ideas we are very curious about."

Goentoro's BS was awarded by the University of Wisconsin, Madison, in 2001, and she got her PhD from Princeton University in 2006. She has been at Caltech since July of this year.

The Swagged Truth: Good music, real criticism

Three emerging artists enhance and expand their genres

JONATHAN IKPEAZU

Staff Writer

Frank Ocean – *nostalgia, ULTRA*.

For the past decade, R&B music has been plagued by uninspired vocalists and mediocre writers, each seemingly intent on tweaking old clichés and pushing the boundaries of sex appeal rather than creating original content.

That's why Frank Ocean's approach is so refreshing, even though it's evident that his artistry and vision may be too extensive for the pigeonhole of R&B.

Ocean began his career as songwriter Lonny Breaux, penning ballads for artists like Justin Bieber, John Legend, and Brandy under the Island Def Jam recording label. When time came to record Breaux's solo album, however, the label shrugged him off for years.

Frustrated and determined not to let his career stagnate, he circumvented Island Def Jam and joined the motley independent rap collective Odd Future (OFWGKTA) under the new name Frank Ocean.

Less than a year later, he dropped *nostalgia, ULTRA* for free in a nonchalant Tumblr entry among various posts about Hot Pockets, Pokemon cards, old BMW's, and panda sex. Using no formal promotion, the album garnered organic buzz through social media and accumulated rave reviews on every major music blog for its uniqueness and quality.

Sonically, the album is a standout. Besides beats from some of the music industry's top producers, *nostalgia, ULTRA* features songs by Ocean performed over classics from Coldplay, MGMT, Radiohead and others.

That kind of quirky, genre-bending sensibility alone attracts plenty of attention, but Ocean's lyrics give the album its true merit. On "Novacane," Ocean compares his fleeting rendezvous with a perfect girl to a dose of a rare drug and a desperate, fruitless search to find the exact same feeling. On "Swim Good," Ocean vividly describes driving off of a cliff in an assassin-black suit with a trunk full of broken hearts, beating like the bass of a stereo.

As an artist, Ocean relies on vivid, emotional lyrics like these and only embellishes them with his voice.

Vocals take a backseat on most of the album, except for melismatic segments on songs like "Lovecrimes" and "We

All Try," where he shows off his legit singing chops.

Nostalgia, ULTRA is imaginative, quirky, and new; more importantly, it's bolstered by real talent that won't wear off no matter how many times you play it.

The Glitch Mob – *Drink the Sea*

Even this early in The Glitch Mob's career, it's evident that they're among the masters of heavy electronic music. The Los Angeles-based trio engineers music that is impeccably precise, yet hardly formulaic. They have a penchant for robust synthetic drums, pulsating rhythms, hazy synths and fuzzy background textures that coalesce to form an aesthetically unique brand of electronica.

Their first full-length album, *Drink the Sea*, sounds like the perfect playlist for navigating a lunar rover expedition or ducking through jungles on a sci-fi planet during interstellar war (ignoring the physics of wave propagation in space, of course). The gripping opener "Animus Vox" is a perfect example: its slow build, pounding synthetic war drums, and seamless

progression through suspenseful beatdrops and powerful solo trigger kinesthesia and excitement.

Next is the sedated, eerie "Bad Wings," whose drowned vocal textures and dim synth bells are a refreshing break from the auditory blitz of the previous song.

This kind of mood shift is characteristic of the album; "*Drink the Sea*" oscillates between pulsing excitement and downtempo mystique without a dull moment in between.

Little Dragon – *Ritual Union*

It's tough to place Little Dragon into a single genre. The band formed between four high school friends in Gothenberg, Sweden in 1996, and since then they've created a style all their own—and more than once completely reinvented it. Their eponymous debut album of 2007 showed promise, but it was perhaps a little too solemn, mature and minimalistic for the band's hip younger audience. Little Dragon must have realized this, because they returned two years later with *Machine Dreams*, ... Infectiously rhythmic, layered with color

and atmosphere, and skillfully arranged around Swedish-Japanese frontwoman Yukimi Nagano's smoky, serene vocals, the album placed Little Dragon right on the cusp of electronic and pop music.

Their third album, *Ritual Union*, sounds like an ideal union of their first two releases: a juxtaposition of *Machine Dreams'* upbeat polyphony and the solemn lyrics of Little Dragon. The title track is elaborate, bass-heavy, and so deceptively upbeat that you might miss the distraught lyrics carried by Nagano's assertive falsetto. The same effect happens on "Crystalfilm," where the groovy instrumentation distracts attention away from Nagano's intimate reflections about clutching for sanity after being abandoned by her lover. Most songs on the album are multifaceted this way, but it's nice that Little Dragon leaves some room for unabashed pop. "Nightlight" is irresistibly catchy, and so is the single "Brush the Heat," whose equally colorful music video features psychedelic animation by Nagano's father.

Little Dragon may have finally found the style they've been looking for with *Ritual Union*. Simply

put, it's a good combination of everything they do best. However, don't get attached; there's no telling what they'll sound like next.

ATTENTION

The Swagged Truth is looking for writers! If you love music and want your opinion published biweekly in the Tech, enter The Swagged Truth's music review contest!

One winner will receive two tickets to see Little Dragon LIVE at Hollywood's Club Avalon on October 6.

The winner and select runners up will be published in The Swagged Truth and offered positions as permanent columnists.

To enter, submit your original review to j.ikpeazu@caltech.edu. The album you review must be released in 2011, and your review must be at least 200 words. Good luck!



Caltech Couture: One student's take on fashion

ALEX LANGERFELD
Staff Writer

Dearest Techers,

Welcome to another school year at Caltech! This may be your first year or your final year, this may be your easiest year or you hardest, this may be your fastest or your slowest.

Whatever this year brings to you, I hope that you take it in style. For the next 3 terms, I will be chronicling the various displays of style around campus.

Style reflects one's taste and outlook, and forms an individual's signature. A good host knows that a well-prepared meal can always be made at least twice as enjoyable by appropriate presentation and entertainment. Similarly, anything one does can be amplified by appropriately chosen style.

While you personally may not be too concerned about your outward appearance, it is worth the effort to present yourself in an optimal light. In the long run, this will leave you with a feeling of self-confidence, if nothing else. And with that, let's begin!

The first step in enhancing your appearance is caring; in other words, make the effort to look after yourself. I strongly encourage honesty and self-criticism.

Techers, although you are at a technological institute - one of the best in the world in fact - you have no excuse not to care about your appearance! I have seen people come to class far too often in their pajamas, unshowered, and with groggy expressions. Note if you do this and please be honest with yourselves!

I do not believe that there is one perfect look or style. Whatever sets

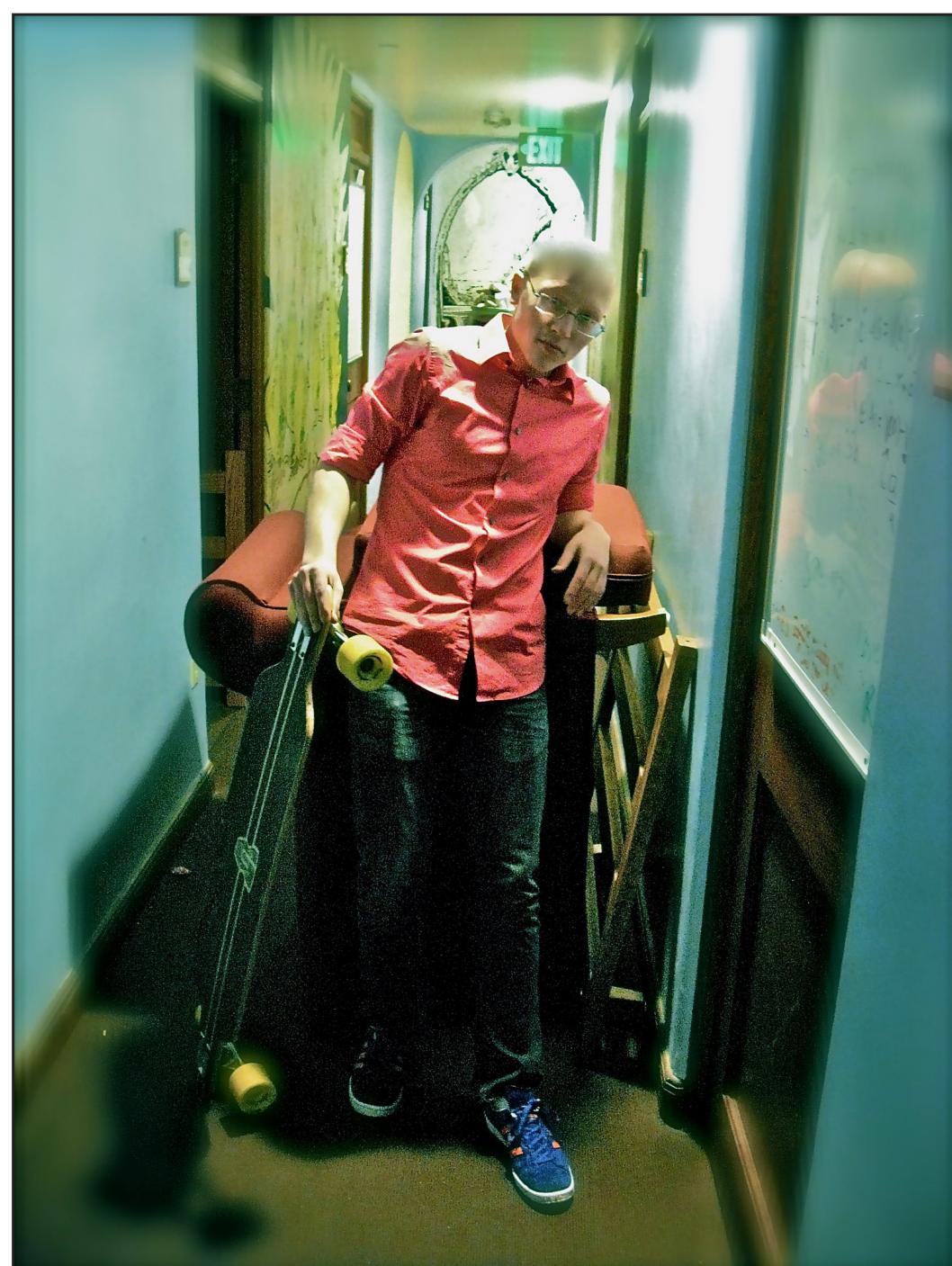
you apart from the crowd in a positive way can be a clear indicator of how to make yourself presentable.

Your hairstyle might not be like that of Kate Moss on the cover of this month's Vogue, but we will still notice if you choose to brush it or not.

You might not have perfect washboard abs like Michael Phelps, but we can see if you exercise consistently.

Caring for your body should not be a chore or a hardship. It should be enjoyable because, in the end, it only amplifies who you are! Besides physical self-presentation, there is also virtual self-presentation. Every year many Frosh come to Caltech already

knowing a good portion of their class from their Facebook profiles.



The editors-in-chief of The California Tech decided to go out and find someone looking fashionable at Caltech.

- Eugene Vinitsky

I certainly remember how people to their profiles as I walked around campus my Frosh year.

Some matches were easy to make but others took me quite a while. This demonstrates how powerful profiles are in forming one's image.

I'll put out one pet peeve right now, though some of you may not appreciate it. What irks me most about profiles is too much information: too much in the interests section, too much in the quotes section, too much in the arts section. Too many sandwich-eating status updates fill up news feeds. However, the worst of all is an overabundance of photos.

50 quality, tasteful, and distinctive photos do much more than 1,000 repetitive point-and-shoot snapshots. A well-edited profile reflects the care put into maintaining it.

Finally, I'd like to encourage everyone to return the favor to those who do put an effort into their appearance.

Recognize when someone puts care into their look. Their job might not be perfect and might not suit your own taste, but it is a job nevertheless and it required exertion.

Return the respect they gave you through being presentable by acknowledging their effort and perhaps you will be encouraged to match the effort yourself!

Sincerely,

Alex Lagerfeld

The Tech congratulates Dr. R. Blythe Towal for her Women in Science Fellowship

L'Oréal USA Fellowships For Women In Science, a national awards program, created to support the advancement of women in science and to encourage women to continue careers in scientific fields. Since the program's inception in 2003, L'Oréal USA has recognized and awarded research grants to 40 post-doctoral women scientists in the life and physical/material sciences, as well as mathematics, engineering and computer science. The program aims to raise awareness of the contribution of women to the sciences and identify exceptional female researchers in the U.S. to serve as role models for younger generations.

The 2011 Fellows were selected from a competitive pool of candidates by an interdisciplinary review panel and a distinguished jury of nine eminent scientists and engineers. The Fellows were selected based on several criteria, including exceptional academic records and intellectual merit, clearly-articulated research proposals with the potential for scientific advancement and outstanding letters of recommendation from advisers and overall excellence. The peer-review process was managed by the American Association for the Advancement of Science (AAAS).

The L'Oréal USA Fellowships For Women In Science Award ceremony will take place in the Kennedy Caucus room in Washington DC on September 15.

Towal is an engineer in the field of computational neuroscience. With the support of the L'Oréal USA Fellowship For Women In Science award, Dr. Towal will design and build novel instruments to measure human eye movements during normal, active-sensing behavior as opposed to the highly artificial conditions of the laboratory. These instruments will enable her to measure where people look and determine how the properties of the environment are combined with the goals of the person to allow them to perceive their surroundings and select appropriate actions under natural conditions.

Dr. Towal hopes that these experiments will lead not only to improved robotic technologies but also to a deeper understanding of information processing in the nervous system.



- wowelle.com

Memoirs of a summer in Okinawa

ELISA WALSH

Contributing Writer

It is midnight: the din of summer cicadas deafens even the roar of the Pacific waves, which I am currently headed for with a few fellow travelers I met just days before. Enormous fruit bats swoop overhead as we carefully tread in the light of an iPhone, reluctant to meet one of the hand-sized spiders or fearsome vipers that roam the island. However, we talk freely, laughing and cracking jokes as we clutch our pillows. There is no need for blankets when it remains oppressively hot and humid long after the sun has taken its daily bow. Now, only stars rule the horizon: more than one could ever see in Los Angeles, and indeed any other city. Occasionally, one will shoot across the sky in a brilliant streak against the lofty jungle trees. While this environment might sound vaguely Amazonian, the place is actually Hoshizuna Beach of Taketomi Island, one of the pearls on the chain of islands that constitute the Okinawa Prefecture of Japan. The Ryukyu Islands were my home for exactly two weeks as a SanPietro Travel Fellow.

When I first received the fellowship, I admit I only had a shallow

understanding of the complexities inherent in Okinawan culture. It was only in 1879 that Japan conquered the Ryukyus, and the U.S. further controlled them from 1945 until 1972. The U.S. military base remains to this day, and the Japanese government remains in power despite whispers of secession. This strange concoction of cultures manifests itself in subtle ways: for example, one is as likely to hear a WWII-era American croon as a traditional folk song (accompanied by the sanshin instrument) in an Okinawan café. One might also encounter the much-loved dish "taco rice," which is exactly what it sounds like and no less bizarre for it.

In all honesty, I doubt I could gain a fundamental understanding of Okinawan culture in two years—let alone two weeks. Still, I had to do my best, and so one tiny Caucasian girl with two carry-ons,

¥83,000, and a handful of Japanese phrases made her way to no less than six islands of Japan's most unique prefecture.

From the sights to the diet to the daily life, I immersed myself in the islands. Extremely important was the fact that I traveled alone. I had no friend to lean on, and so my confidence, resourcefulness, and communication skills all skyrocketed in defense. Found someone who can't speak a lick of English? Start gesturing and tossing out every possibly related Japanese word! In fact, people were

so impressed that I was willing to speak Japanese that I was practically buried under free food and other gifts. I also managed to find a solid group of fellow travelers—mostly Japanese, with one Frenchman—with whom I remained for an entire week.

In addition to stuffing ourselves silly with delicious Okinawan cuisine such as goya chanpuru and sata andagi, we explored smaller venues such as the wild Iriomote Island (90% uninhabited), Ishigaki's limestone caves containing centuries-old remains

of Ryukyu families, and coral reef snorkeling off Kohama Island. Each new day left me dizzied by all I had learned and seen. I was literally star-struck on the night at Hoshizuna Beach, where I huddled with my newfound friends as we communicated, through broken English and Japanese, how none of us had ever seen a night more beautiful.

In the end, it is difficult to consolidate my experience into a bite-sized piece. There was so much that even now, I can barely describe my time in Okinawa without beginning to ramble. If there is anything I can say concisely, it is this: it was the best experience of my life, and one I will never forget! Make time to travel, and in particular take advantage of the opportunities Caltech offers to visit foreign countries. Keep your eyes peeled for the SanPietro 2012 applications!



Left: Observers at an Okinawa aquarium watch in awe as a large animal swims along; Above: Elisa takes a second to capture a fun visit to the shore with her new Japanese friends; Right: Elisa tasted Japan's cuisine and found it too beautiful to leave unphotographed.

- Elisa Walsh



A word on health

JENNIFER LEVIN

Caltech Health Educator

It is that time of year again. With daylight dwindling, new classes starting, and increased exposure to others, around every corner lurks an opportunity to catch the frosh plague. Despite your best intentions, it is easy to get sick and, for many, getting sick means falling behind in class and problem sets. Taking care of yourself is the best way to prevent sickness and stay healthy. Follow the self-care steps listed below to reduce your risk of getting the frosh plague.

1. Eat a well balanced diet – full of fruit, vegetables and protein. A healthy diet is the best way to keep your body healthy and your immune system strong to fight off unwanted colds and the flu.

2. Get enough sleep – a good night of solid, uninterrupted sleep is also key to keeping your immune system strong and your brain sharp.

3. Stay active – physical exercise is a perfect way to decrease your stress level, maintain your

ideal body weight and keep your thinking clear.

4. Keep your room clean – clear away old food, moldy apple cores and used pizza boxes. A stale environment smells and attracts ants or worse.

5. Stay away from others who are sick and wash your hands – washing your hands is the easiest way to prevent the spread of disease.

6. Get your flu shot – this year Caltech will offer a free flu clinic on Wednesday October 19th at Dabney Lounge from 8:30-3:00. A valid Caltech ID is required. Also – for those of you who have not yet received the required meningitis vaccine, stop by the health center (additional fee required).

7. Visit your health educator, Jennifer Levin, for tips and tricks on how to improve your life style, eat better while on board, find the time and motivation to exercise, and learn the best ways to control your stress! She can be reached at x 2961 or at jlevin@caltech.edu.

Here is to a great, healthy year!

Meandering through Moscow

MACKENZIE DAY

Contributing Writer

Nineteen hours of daylight, the best public transport you've ever seen, and tasty tasty popsicles. These are the things I will remember most about living in Moscow over the summer. Thanks to the Amasa Bishop Summer Study Abroad Prize, I spent three weeks in Moscow, Russia, learning the language and running around the city. In three weeks I explored the Kremlin, Red Square, and a labyrinth of parks and landmarks in one of the world's biggest and oldest cities. It made for a few good stories.

The best part of being in Russia was getting lost. It sounds strange, but the more I got lost, the more I was forced to practice my Russian on random passersby, and the more of the city I got to accidentally see. One day, my Italian classmate and I headed out to find the Museum of Literature.

We spent hours searching for this place, but three different metro stations, dozens of locals, and five dead end streets later, we concluded that the Museum of Literature doesn't actually exist.

The final Harry Potter movie came out while I was in Russia. Even if you weren't a fan, the crowds of wand-waving, cloak-wearing teenagers made it so everyone knew about the premier. For some reason the name got a bit altered in translation. In Russia, all the young people are obsessed with "Garry Potter." Hermione gets to keep her "H" in Russian, but Garry is not so lucky.

Despite the cold snowy stereotype of mother Russia, Moscow in July was over 90 degrees every day. The city is so far north that in the summer sunrise happens around 4am and sunset around 11pm. I saw both several times while I was there. With all the walking and getting lost my friends and I did, I was very glad to discover the deliciousness of Russian popsicles. Every day I would interrupt our treks around the city with an apple, cucumber, or "exploding cactus" treat on a stick. Nothing makes being lost in a foreign country better than ice cream on a hot day.

My host mother in Moscow made sure ice cream wasn't the only thing I was eating. Always insisting that I have second and

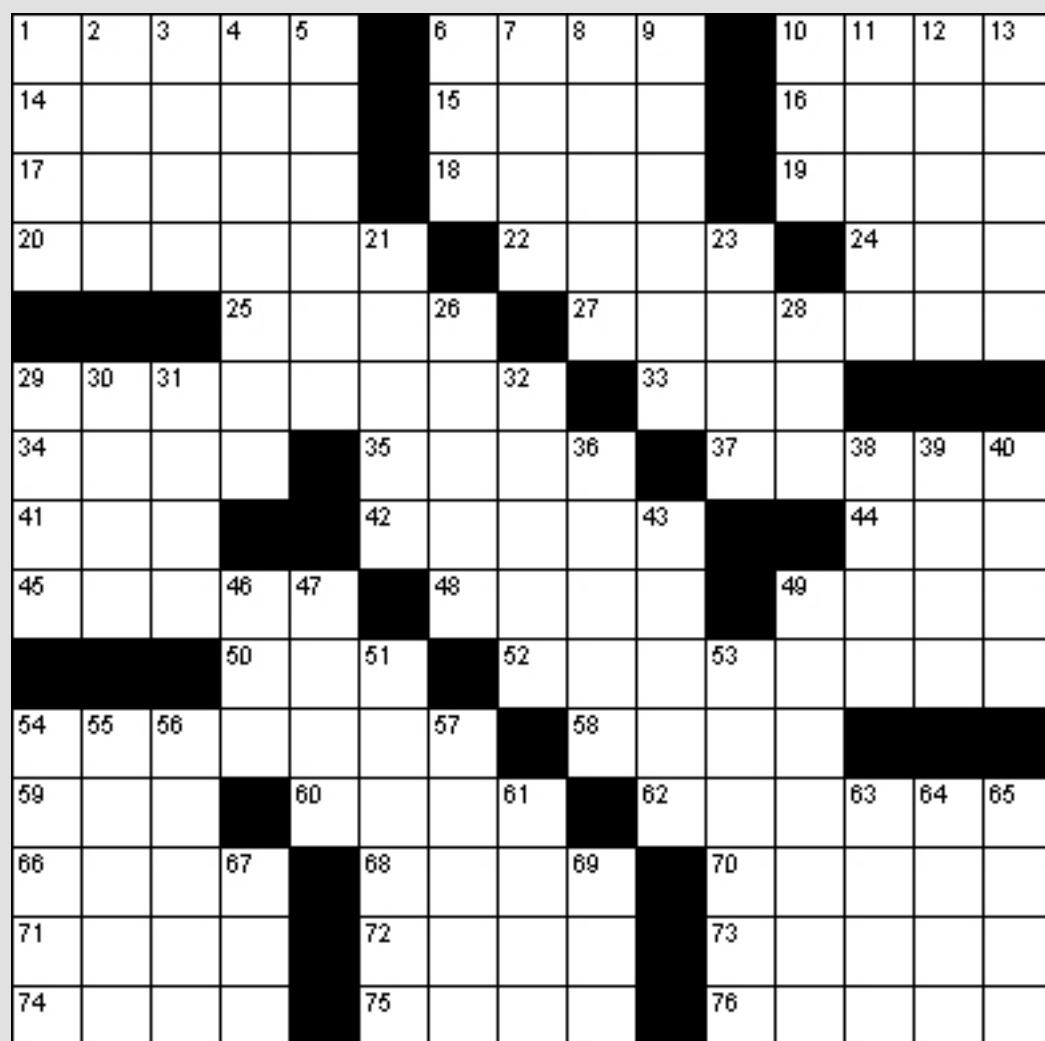
third helpings, she showed me how to make traditional Russian foods that I could barely pronounce, but can now cook on my own. We had a nice routine of dinner and gossiping in which she told me all about her experiences in Soviet Russia, and I asked her questions that were >60% gesticulation. We talked family and politics, and she told me all of the best secret places to go in the city.

In three weeks of Moscow I learned enough Russian to keep myself afloat and have a few adventures.

It was a great experience that would not have been possible without the support of the Bishop Prize and the Fellowship Advising and Study Abroad office. I am very grateful for such an opportunity, and for all the help I received along the way. It was an unforgettable trip that I would recommend to anyone.

Want to have summer adventures like Elisa and Mackenzie? Check out the many travel funds available through Caltech!

Today's Puzzle: Crossword



[<http://www.puzzlechoice.com/>]

Across

- 1. Young nocturnal bird
- 6. Fastner
- 10. Reckless
- 14. Fumble
- 15. Look
- 16. Male singing voice
- 17. Relating to kidneys
- 18. Footwear
- 19. Layer
- 20. Immerse
- 21. Urge on
- 22. Tender
- 23. Outflow
- 24. Candy
- 25. Lofty
- 26. Device used to shape metal
- 27. Individual structure
- 28. Swarm
- 29. Postage token
- 30. Form of transport
- 31. Angered or excited
- 32. Negative vote
- 33. Livid
- 34. Entice
- 35. Agitate
- 36. Small island
- 37. Short
- 38. hours employment
- 39. Can make your eyes water
- 40. Fiend
- 41. Swarm
- 42. Postage token
- 43. Form of transport
- 44. Angered or excited
- 45. Negative vote
- 46. Livid
- 47. Entice
- 48. Agitate
- 49. Small island
- 50. Short
- 51. hours employment
- 52. Can make your eyes water
- 53. Fiend
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- 60. Entice
- 61. Agitate
- 62. Small island
- 63. Short
- 64. hours employment
- 65. Can make your eyes water
- 66. Fiend
- 67. Swarm
- 68. Postage token
- 69. Form of transport
- 70. Angered or excited
- 71. Negative vote
- 72. Livid
- 73. Entice
- 74. Agitate
- 75. Small island
- 76. Short

Down

- 59. Unwell
- 60. Female red deer
- 62. The second of two
- 66. Destroy
- 68. Den
- 70. System of five lines in music
- 71. Boundary of a surface
- 72. Gumbo
- 73. Spooky
- 74. Surface impression
- 75. Submerged rock or coral
- 76. Mythical cave-dwelling creature
- 12. Beer mug
- 13. Multitude
- 21. Belief
- 23. Rostrum
- 26. Bow down
- 28. Allow
- 29. Musical instrument
- 30. Burden
- 31. Desire
- 32. Outfit
- 36. Wall painting
- 38. Opposing
- 39. Wound seriously
- 40. Funeral mound
- 43. Danger
- 46. Sense organ
- 47. Close
- 49. Stammer
- 51. Sartor
- 53. Tableware
- 54. Weary
- 55. Evade
- 56. Coordinate
- 57. Reptile
- 61. Desperate
- 63. Root vegetable
- 64. Malevolent
- 65. Bobbin
- 67. Trap
- 69. One of the British armed services, initially

SwoopThat thrives amongst college students

Continued from page 1

And he is quite justified in making these claims.

SwoopThat is now the largest aggregator of course data in the country, supporting over 2350 schools and growing.

The site essentially collects course textbook data and centralizes the information in a single location available to all users.

This was made possible by the Higher Education Opportunities Act, which came into effect in 2010; the act stated that "any school receiving federal funding has to post online, in a manner of their choosing, all the courses being offered and the required textbooks for those courses. As soon as that came into effect, [Simkin and his business partners] started developing systems to automate the collection of the data."

The site claims that the company is "currently partnered with over 1500 of the nation's largest retailers", including Amazon.com, Chegg.com, and half.com.

SwoopThat has a mutualistic relationship with each of these retailers. As Simkin explains, "We view every retailer on our website as more of a partner. They are actually how we get paid. We get paid [a small commission] when we drive sales to them. We don't sell textbooks. We're not stealing sales from anyone; we're just opening up the game to give them all an equal chance. There is no preference, no sorting based

on how much someone pays us, or anything. It's all completely unbiased results." SwoopThat not only allows students to buy textbooks at the cheapest possible prices, but the creators have "also added a textbook exchange component, which lets students buy and sell books to each other for free."

A person could go online and post a book for sale; only Caltech students would see the book and could meet up in person to make the sale. Simkin adds, "We don't take a commission or anything on that. We just do it to help students save as much as they can."

And the perks don't stop there. Simkin also mentioned that the team has recently added both filters and the new "One-Click Feature". He describes a possible scenario:

"So let's say you need ten books. There are filters on the left so you can specify seller ratings, book conditions, and type of book (digital media, rental, or print). Let's say Amazon sells all ten of those books – we'll give you one link that lets you buy all ten books simultaneously. So it's really quick. It gives the cheapest combination of books within Amazon, given your preferences."

Currently, the team is working on a free software sweep that provides

the school with an online bookstore. It allows the creation of "a virtual bookstore with a combination of all the major bookstores in the country. Basically, the school is given a custom-branded version

simply by providing this top-notch free service to their students."

Clubs and organizations can also create their own storefront in a similar fashion and earn a few hundred bucks for themselves.

the numbers don't lie. Simkin remarked, "We had 45,000 people using the site last month. By Internet standards, that's actually not that much, but given that we spent \$1,000 on marketing, we actually ended up saving students about \$400,000."

"And almost 250,000 books have been purchased. It's just been phenomenal. We couldn't be asking for any better results on our clearly college budget."

With respect to the success of the company, he admits, "I was certainly hoping for it. But although we may be one step ahead, but we're nowhere close to where we need to be."

"We always want to hear back from students to make this a very collaborative process where any student can email us at any time and give us feedback about new features they want. It's very much a by-students-for-students project, and regardless of how big or small we are, we want to keep that culture alive."

For other recent graduates with an entrepreneurial mindset, Simkin offers advice: "Anyone who wants to start a business has to be very motivated and passionate and they can't be afraid of working hard or of failure."

And with the right timing, resources, and some luck, SwoopThat is a clear indication of the sort of success you can achieve.

Check out SwoopThat, Inc. at swoopthat.com.



<http://www.socaltech.com/>

of the website. It ensures that the students get the best price, and the school also makes money for every book purchased. It's a great way for the school to get additional money

Simkin stated that these new developments are both "to spread awareness and to achieve their goal of giving back to the community". SwoopThat is doing just that;

ROTATION

SEPTEMBER 26, 2011 9

Last	First	Saturday, Sept 24 Lunch	Saturday, Sept 24 Dinner	Sunday, Sept 25 Lunch	Sunday, Sept 25 Dinner	Monday, Sept 26 Lunch	Monday, Sept 26 Dinner	Tuesday, Sept 27 Lunch	Tuesday, Sept 27 Dinner	Wednesday, Sept 28 Lunch	Wednesday, Sept 28 Dessert	Thursday, Sept 29 Lunch	Thursday, Sept 29 Dinner	Friday, Sept 30 Lunch	Friday, Sept 30 Dinner	Saturday, Oct Lunch
Adame	Juan	Da	Ru	Pa	Fl	Ri	Bl	Li	Pa	Da	Ru	Fl	Li	Bl	Ri	Av
Alvarez-Villalonga	Belen	Li	Da	Fl	Pa	Ru	Ri	Av	Fl	Li	Da	Pa	Av	Ri	Ru	Bl
Amla	Keshav	Bl	Ru	Da	Li	Pa	Ri	Av	Da	Bl	Ru	Li	Av	Ri	Pa	Fl
An	Da	Pa	Li	Av	Ri	Bl	Fl	Ru	Av	Pa	Li	Ri	Ru	Fl	Bl	Da
Angel	Luc	Bl	Fl	Da	Ru	Av	Li	Ri	Da	Bl	Fl	Ru	Ri	Li	Av	Pa
Ann	Phoebe	Bl	Ri	Pa	Ru	Li	Da	Fl	Pa	Bl	Ri	Ru	Fl	Da	Li	Av
Asundi	Arun	Da	Ru	Av	Ri	Li	Bl	Pa	Av	Da	Ru	Ri	Pa	Bl	Li	Fl
Aziz	Sharjeel	Bl	Fl	Av	Ri	Pa	Li	Da	Av	Bl	Fl	Ri	Da	Li	Pa	Ru
Bailey	Karsyn	Fl	Da	Ri	Li	Pa	Av	Ru	Ri	Fl	Da	Li	Ru	Av	Pa	Bl
Ball	Alexander	Av	Ri	Fl	Ru	Pa	Bl	Li	Fl	Av	Ri	Ru	Li	Bl	Pa	Da
Banholzer	Sophianna	Bl	Pa	Av	Fl	Ri	Ru	Li	Av	Bl	Pa	Fl	Li	Ru	Ri	Da
Bao	William	Ri	Fl	Av	Bl	Pa	Da	Ru	Av	Ri	Fl	Bl	Ru	Da	Pa	Li
Barreiro	Alexander	Da	Pa	Ri	Fl	Ru	Av	Bl	Ri	Da	Pa	Fl	Bl	Av	Ru	Li
Barz	Richard	Ri	Fl	Da	Bl	Li	Ru	Pa	Da	Ri	Fl	Bl	Pa	Ru	Li	Av
Batterman	Ryan	Ru	Li	Ri	Da	Av	Fl	Bl	Ri	Ru	Li	Da	Bl	Fl	Av	Pa
Bayless	Jonathan	Pa	Li	Ru	Fl	Da	Bl	Av	Ru	Pa	Li	Fl	Av	Bl	Da	Ri
Bello	Aleksander	Li	Pa	Bl	Ri	Fl	Da	Ru	Bl	Li	Pa	Ri	Ru	Da	Fl	Av
Bennett	Timothy	Av	Fl	Li	Ru	Bl	Da	Pa	Li	Av	Fl	Ru	Pa	Da	Bl	Ri
Bern	James	Li	Pa	Av	Da	Ri	Fl	Bl	Av	Li	Pa	Da	Bl	Fl	Ri	Ru
Betz	Kerry	Fl	Pa	Bl	Li	Ru	Da	Av	Bl	Fl	Pa	Li	Av	Da	Ru	Li
Bhattaru	Srinivasa	Fl	Ri	Da	Av	Ru	Li	Pa	Da	Fl	Ri	Av	Pa	Li	Ru	Bl
Bjorn	Mikkel	Av	Ru	Ri	Fl	Bl	Li	Da	Ri	Av	Ru	Fl	Da	Li	Bl	Pa
Blakemore	Charles	Fl	Da	Av	Ru	Ri	Bl	Li	Av	Fl	Da	Ru	Li	Bl	Ri	Pa
Bobrow	Eric	Pa	Ri	Da	Fl	Bl	Ru	Li	Da	Pa	Ri	Fl	Li	Ru	Bl	Av
Boemer	Sven	Li	Fl	Ru	Pa	Da	Bl	Ri	Ru	Li	Fl	Pa	Ri	Bl	Da	Av
Boettcher	Ronnel	Pa	Av	Ru	Bl	Da	Ri	Fl	Ru	Pa	Av	Bl	Fl	Ri	Da	Li
Brown	Lucas	Pa	Li	Bl	Av	Fl	Ri	Da	Bl	Pa	Li	Av	Da	Bl	Fl	Ru
Buchbinder	Sidney	Ru	Av	Ri	Li	Fl	Bl	Pa	Ri	Ru	Av	Li	Pa	Bl	Fl	Da
Bunting	William	Ri	Ru	Li	Da	Pa	Av	Bl	Li	Ri	Ru	Da	Bl	Av	Pa	Fl
Caseres	Jennifer	Ru	Bl	Da	Av	Pa	Ri	Fl	Da	Ru	Bl	Av	Fl	Ri	Pa	Li
Casey	Ryan	Da	Pa	Fl	Li	Av	Ru	Bl	Fl	Da	Pa	Li	Bl	Ru	Av	Ri
Chan	Doreen	Av	Ri	Li	Pa	Ru	Da	Fl	Li	Av	Ri	Pa	Fl	Da	Ru	Bl
Chan	Tracey	Fl	Bl	Av	Li	Pa	Da	Ri	Av	Fl	Bl	Li	Ri	Da	Pa	Ru
Chander	Krishnan	Pa	Ru	Bl	Li	Av	Da	Ri	Bl	Pa	Ru	Li	Ri	Da	Av	Fl
Chang	Solomon	Da	Li	Ru	Fl	Av	Pa	Ri	Ru	Da	Li	Fl	Ri	Pa	Av	Bl
Chattergoon	Brad	Ri	Li	Av	Fl	Ru	Da	Pa	Av	Ri	Li	Fl	Pa	Da	Ru	Bl
Chen	Jianchi	Fl	Ru	Li	Ri	Av	Da	Pa	Li	Fl	Ru	Ri	Pa	Da	Av	Bl
Chen	Kevin	Ri	Da	Ru	Pa	Li	Bl	Da	Av	Ru	Ri	Da	Pa	Av	Bl	Li
Chen	Moya	Li	Av	Pa	Fl	Da	Ru	Bl	Pa	Li	Av	Fl	Bl	Ru	Da	Ri
Chen	Wen Min	Ru	Li	Ri	Pa	Bl	Av	Fl	Ri	Ru	Li	Pa	Fl	Av	Bl	Da
Cheng	Lin	Ri	Pa	Bl	Av	Ru	Li	Da	Bl	Ri	Pa	Av	Da	Li	Ru	Fl
Cheng	Yintong	Da	Fl	Pa	Ru	Av	Ri	Li	Pa	Da	Fl	Ru	Li	Ri	Av	Bl
Ching	Kaitlin	Fl	Av	Ru	Da	Ri	Bl	Pa	Ru	Fl	Av	Da	Pa	Bl	Ri	Li
Chio	Linda	Ru	Pa	Da	Fl	Li	Ri	Bl	Da	Ru	Pa	Fl	Bl	Ri	Li	Av
Choi	Joseph	Ri	Pa	Ru	Li	Fl	Av	Bl	Ru	Ri	Pa	Li	Bl	Av	Fl	Da
Choi	Sunghoon	Ru	Li	Pa	Av	Ri	Da	Bl	Pa	Ru	Li	Av	Bl	Da	Ri	Fl
Christian	John	Fl	Li	Ri	Pa	Da	Ru	Bl	Ri	Fl	Li	Pa	Bl	Ru	Da	Av
Chua	Meng Shuen	Bl	Li	Pa	Ri	Fl	Ru	Av	Pa	Bl	Li	Ri	Av	Ru	Fl	Da
Cioc	Alexandru	Pa	Fl	Da	Ri	Ru	Av	Li	Da	Pa	Fl	Ri	Li	Av	Ru	Bl
Clark	Matthew	Pa	Fl	Ri	Av	Li	Bl	Ru	Ri	Pa	Fl	Av	Ru	Bl	Li	Da
Connor	Bridget	Da	Av	Bl	Ri	Fl	Ru	Pa	Bl	Da	Av	Ri	Pa	Ru	Fl	Li
Cui	Timothy	Ru	Ri	Fl	Pa	Bl	Li	Da	Fl	Ru	Ri	Pa	Da	Li	Bl	Av
Culpepper	Christopher	Da	Bl	Ri	Li	Av	Fl	Pa	Ri	Da	Bl	Li	Pa	Fl	Av	Ru
Curtiss	Oliver	Av	Pa	Da	Ru	Ri	Li	Bl	Da	Av	Pa	Ru	Bl	Li	Ri	Fl
Dajose	Lorinda	Pa	Bl	Ru	Li	Ri	Fl	Da	Ru	Pa	Bl	Li	Da	Fl	Ri	Av
Davis	Joel	Da	Bl	Ri	Ru	Fl	Pa	Li	Ri	Da	Bl	Ru	Li	Pa	Fl	Av
Daya	Poomim	Av	Fl	Ri	Pa	Da	Li	Ru	Ri	Av	Fl	Pa	Ru	Li	Da	Bl
De Jong	Maxwell	Av	Ru	Pa	Li	Bl	Fl	Ri	Pa	Av	Ru	Li	Ri	Fl	Bl	Da
DeFelippis	Daniel	Av	Da	Bl	Li	Ri	Pa	Ru	Bl	Av	Da	Li	Ru	Pa	Ri	Fl
Dotson	Hannah	Av	Ri	Ru	Li	Da	Fl	Bl	Ru	Av	Ri	Li	Bl	Fl	Da	Pa
Drakos	Demetris	Li	Da	Ri	Bl	Fl	Av	Ri	Li	Da	Ru	Av	Fl	Bl	Pa	Pa
Duan	Victor	Li	Fl	Bl	Pa	Av	Ru	Da	Bl	Li	Fl	Pa	Da	Ru	Av	Ri
Ellsworth	Emily	Da	Ri	Ru	Av	Bl	Pa	Li	Ru	Da	Ri	Av	Li	Pa	Bl	Fl
Ene	Irina	Li	Ri	Bl	Fl	Ru	Av	Pa	Bl	Li	Ri	Fl	Pa	Av	Ru	Da
Enlow	Monica	Av	Fl	Li	Bl											

ROTATION

Last	First	Saturday, Sept 24		Sunday, Sept 25		Monday, Sept 26		Tuesday, Sept 27		Wednesday, Sept 28		Thursday, Sept 29		Friday, Sept 30		Saturday, Oct	
		Lunch	Dinner	Lunch	Dinner	Lunch	Dinner	Lunch	Dinner	Lunch	Dessert	Lunch	Dinner	Lunch	Dinner	Lunch	
Krayzman	Lev	Bl	Fl	Pa	Av	Da	Ru	Ri	Pa	Bl	Fl	Av	Ri	Ru	Da	Li	
Kuroyama	Shari	Bl	Pa	Ru	Ri	Da	Fl	Li	Ru	Bl	Pa	Ri	Li	Fl	Da	Av	
Lai	Katherine	Ri	Bl	Li	Fl	Pa	Ru	Da	Li	Ri	Bl	Fl	Da	Ru	Pa	Av	
Langman	Ryan	Ri	Av	Ru	Bl	Pa	Fl	Li	Ru	Ri	Av	Bl	Li	Fl	Pa	Da	
Lappin	Matthew	Ru	Pa	Bl	Da	Ri	Li	Fl	Bl	Ru	Pa	Da	Fl	Li	Ri	Av	
Lawler	Elizabeth	Bl	Da	Ri	Fl	Av	Pa	Ru	Ri	Bl	Da	Fl	Ru	Pa	Av	Li	
Leadbetter	George	Fl	Pa	Ru	Bl	Li	Da	Ri	Ru	Fl	Pa	Bl	Ri	Da	Li	Av	
Lee	Barclay	Fl	Ri	Pa	Bl	Av	Li	Ru	Pa	Fl	Ri	Bl	Ru	Li	Av	Da	
Lee	Jong Yeon	Ri	Da	Bl	Fl	Ru	Pa	Li	Bl	Ri	Da	Fl	Li	Pa	Ru	Av	
Lee	Katherine	Pa	Li	Ri	Bl	Ru	Da	Fl	Ri	Pa	Li	Bl	Fl	Da	Ru	Av	
Lee	Michelle	Li	Ri	Bl	Da	Ru	Av	Fl	Bl	Li	Ri	Da	Fl	Av	Ru	Pa	
Lee	Seoung Jun	Pa	Da	Fl	Av	Ri	Li	Ru	Fl	Pa	Da	Av	Ru	Li	Ri	Bl	
Li	Eileen	Pa	Fl	Ru	Da	Li	Av	Bl	Ru	Pa	Fl	Da	Bl	Av	Li	Ri	
Li	Fanfei	Av	Da	Fl	Bl	Ru	Li	Ri	Fl	Av	Da	Bl	Ri	Li	Ru	Pa	
Liang	Andrew	Ru	Av	Da	Ri	Bl	Li	Fl	Da	Ru	Av	Ri	Fl	Li	Bl	Pa	
Liano	Wilton	Fl	Da	Ru	Ri	Av	Li	Bl	Ru	Fl	Da	Ri	Bl	Li	Av	Pa	
Lim	Haebin	Bl	Ru	Fl	Li	Ri	Da	Pa	Fl	Bl	Ru	Li	Pa	Da	Ri	Av	
Ling	Chloe	Ru	Ri	Fl	Bl	Li	Da	Av	Fl	Ru	Ri	Bl	Av	Da	Li	Pa	
Liu	Anna	Av	Pa	Ri	Bl	Li	Fl	Da	Ri	Av	Pa	Bl	Da	Fl	Li	Ru	
Liu	Cong	Pa	Ru	Li	Da	Fl	Bl	Ri	Li	Pa	Ru	Da	Ri	Bl	Fl	Av	
Liu	Hui	Li	Fl	Ri	Pa	Bl	Da	Ru	Ri	Li	Fl	Pa	Ru	Da	Bl	Av	
Liu	Jonathan	Pa	Ru	Av	Bl	Ri	Li	Fl	Av	Pa	Ru	Bl	Fl	Li	Ri	Da	
Lopez	Marquaux	Fl	Av	Pa	Ri	Bl	Da	Ru	Pa	Fl	Av	Ri	Ru	Da	Bl	Li	
Luhar	Archana	Li	Pa	Ru	Ri	Bl	Av	Da	Ru	Li	Pa	Ri	Da	Av	Bl	Fl	
Majumdar	Shalini	Fl	Av	Ri	Bl	Pa	Ru	Da	Ri	Fl	Av	Bl	Da	Ru	Pa	Li	
Marker	Allison	Fl	Li	Da	Ri	Bl	Av	Pa	Da	Fl	Li	Ri	Pa	Av	Bl	Ru	
Malakhova	Galina	Li	Bl	Pa	Ru	Fl	Da	Av	Pa	Li	Bl	Ru	Av	Da	Fl	Ri	
Malek	Michael	Li	Bl	Pa	Da	Ru	Fl	Ri	Pa	Li	Bl	Da	Ri	Fl	Ru	Av	
Mandayam Comar	Janani	Pa	Ri	Bl	Da	Av	Fl	Ru	Bl	Pa	Ri	Da	Ru	Fl	Av	Li	
Marcinek	Jake	Bl	Fl	Av	Da	Ru	Ri	Pa	Av	Bl	Fl	Da	Pa	Ri	Ru	Li	
Martin	Eric	Ru	Li	Av	Pa	Ri	Fl	Da	Av	Ru	Li	Pa	Da	Fl	Ri	Bl	
Martin	Lander	Ri	Pa	Av	Da	Bl	Ru	Fl	Av	Ri	Pa	Da	Fl	Ru	Bl	Li	
Masehi-Lano	Jacqueline	Fl	Ri	Bl	Ru	Li	Av	Pa	Bl	Fl	Ri	Ru	Pa	Av	Li	Da	
Maslyn	Jacqueline	Da	Fl	Bl	Av	Ri	Ru	Li	Bl	Da	Fl	Av	Li	Ru	Ri	Pa	
Mayron	Austin	Li	Da	Ri	Bl	Av	Ru	Pa	Ri	Li	Da	Bl	Pa	Ru	Av	Fl	
McCue	Kayla	Ri	Av	Li	Pa	Bl	Fl	Da	Li	Ri	Av	Pa	Da	Fl	Bl	Ru	
Meyer	Daniel	Ri	Bl	Fl	Li	Da	Pa	Ru	Fl	Ri	Bl	Li	Ru	Pa	Da	Av	
Miller	Harrison	Fl	Av	Da	Pa	Li	Ri	Ru	Da	Fl	Av	Pa	Ru	Ri	Li	Bl	
Mireles	Ismael	Bl	Da	Li	Ru	Fl	Pa	Ri	Li	Bl	Da	Ru	Ri	Pa	Fl	Av	
Mirpuri	Suraj	Pa	Fl	Bl	Ru	Ri	Da	Av	Bl	Pa	Fl	Ru	Av	Da	Ri	Li	
Nataraj	Chiraag	Ru	Da	Fl	Li	Ri	Av	Bl	Fl	Ru	Da	Li	Bl	Av	Ri	Pa	
Nguyen	Loc	Ru	Av	Li	Pa	Fl	Da	Bl	Li	Ru	Av	Pa	Bl	Da	Fl	Ri	
Niu	Lauren	Pa	Ri	Da	Bl	Fl	Li	Av	Da	Pa	Ri	Bl	Av	Li	Fl	Ru	
O'Bryan	Louis	Fl	Ri	Pa	Da	Li	Ru	Av	Pa	Fl	Ri	Da	Av	Ru	Li	Bl	
Ocampo	Juan	Li	Da	Av	Ru	Pa	Ri	Bl	Av	Li	Da	Ru	Bl	Li	Pa	Fl	
Ortega	Abraham	Ru	Bl	Fl	Av	Ri	Pa	Li	Fl	Ru	Bl	Av	Li	Pa	Ri	Da	
Park	Jeong Joon	Bl	Ru	Av	Li	Da	Pa	Fl	Av	Bl	Ru	Li	Fl	Pa	Da	Ri	
Parker	Nicholas	Ri	Bl	Pa	Fl	Da	Av	Li	Pa	Ri	Bl	Li	Av	Da	Ru	Ru	
Patel	Aleena	Ri	Pa	Li	Bl	Da	Ru	Av	Li	Pa	Bl	Av	Ru	Da	Fl	Fl	
Pelz	Eric	Da	Av	Fl	Bl	Li	Pa	Ru	Fl	Da	Av	Bl	Ru	Pa	Li	Ri	
Petersen	Jeppe	Da	Fl	Ru	Li	Bl	Ri	Pa	Ru	Da	Fl	Li	Pa	Ri	Bl	Av	
Picard	Jeffrey	Av	Da	Ru	Pa	Bl	Li	Fl	Ru	Av	Da	Pa	Fl	Li	Bl	Ri	
Port	Alexander	Bl	Da	Li	Pa	Ri	Fl	Ru	Li	Bl	Da	Pa	Ru	Fl	Ri	Av	
Price	Ellen	Ri	Bl	Ru	Av	Fl	Pa	Da	Ru	Ri	Bl	Av	Da	Pa	Fl	Li	
Qin	Shuyang	Ri	Li	Fl	Pa	Av	Bl	Ru	Fl	Ri	Li	Pa	Ru	Bl	Av	Da	
Qiu	Brynan	Bl	Ru	Av	Da	Li	Fl	Ri	Av	Bl	Ru	Da	Ri	Fl	Li	Pa	
Queen	Matthew	Av	Ru	Ri	Bl	Fl	Da	Pa	Ri	Av	Ru	Bl	Pa	Da	Fl	Li	
Raives	Matthias	Da	Av	Bl	Li	Ru	Fl	Pa	Bl	Da	Av	Li	Fl	Ru	Pa	Pa	
Ramakrishnan	Anand	Ru	Pa	Ri	Da	Fl	Av	Li	Ri	Ru	Pa	Da	Li	Av	Fl	Bl	
Reynolds	Stephanie	Ru	Ri	Pa	Av	Da	Fl	Li	Pa	Ru	Ri	Av	Li	Fl	Da	Bl	
Rong	Xekin	Pa	Da	Li	Av	Bl	Ru	Ri	Li	Pa	Da	Av	Ri	Ru	Bl	Fl	
Rosen	Connor	Li	Av	Da	Ri	Pa	Bl	Ru	Da	Li	Av	Pa	Ri	Ru	Bl	Fl	
Rudelis	Xander	Da	Pa	Li	Bl	Ri	Av	Fl	Li	Da	Pa	Bl	Fl	Av	Ri	Ru	
Rush	Samuel	Da	Ru	Bl	Pa	Li	Fl	Av</td									

From the desk of the Sports Editor:

“Attendance at Caltech sporting events makes me wish I went to a real school”



This is not a crowd. If all of these people got together and decided to have a party, they wouldn't have to register it in order to serve alcohol. Attendance at Caltech sporting events is almost as embarrassing as this picture.

-Radka Dancikova

AMOL KAMAT
Sports Editor

As the campus once again finds itself buzzing with the naïve optimism of a new freshman class, I feel the need to address a popular question posed to many a Techer: why did you choose to attend Caltech? Honestly, it's a tough question to answer. There is little doubt in my mind that a state school would offer us fewer sleepless nights, and certain other private schools, not to name names, could afford us slightly higher GPAs with perhaps less work. In fact, based on the numerous complaints against Caltech that I hear on a daily basis, the decision to attend seems downright illogical. The answer I typically give, and one that I strongly believed until the end of pass/fail, was that I liked the small population. I thought that it would allow me to get to know everybody and enjoy my four years here in the company of a close-

knit family. While this notion was certainly upheld, at least in each of the houses if not on the campus as a whole, it has not always been a good thing. Going to a party and seeing the same people every time can be sort of lame. Also, and I'm not proud of this one, hiding from people can be hard when they always know where you are. The worst part about our small population, however, has to be its effect on the athletics department (yes, this is a sports article).

I don't mean that we have too few student-athletes; in fact I think we have more than a lot of schools thanks to the "no try-out principle" (although I believe the saying is "quality not quantity"). The problem is that we have too few fans. At nearly every sporting event that I have attended in the past year (volleyball and basketball excluded), there have been more Caltech athletes than Caltech fans. For a while, I blamed this on the small population. I couldn't

expect thousands of fans to show up to root for a school that doesn't even have thousands of students. After attending several away soccer games, however, I realized that I was giving us way too much credit. I didn't need to expect thousands of Caltech fans, in fact, just a hundred would do. I don't know how many Caltech home games I've attended in which the away fans outnumbered us ten-to-one, and there were fewer than a hundred people present, total.

This brings me back to the point about Caltech students always complaining. It's what we do best, just ask Housing. Of course, some things are beyond our control. Others, however, are completely our fault. One grievance that particularly gets to me is that Caltech is too boring. Yes, one party a month may seem too few. Yes, interhouse sports can be tedious and annoying, as can house dinners. Yet many of the people who make these complaints have

probably never attended a sporting event. It's true that our chances of winning are very slim, but what's more fun than mocking a team that is completely destroying ours? Nothing, I guarantee it (ask Eric Schropp). Then, there's the chance that we actually win a game, which is even more exhilarating. No, we will not have the festivities or talent that a larger school could offer us, but at least it's free. Furthermore, we have a unique opportunity to say we always had front row seats

to see our good friends play NCAA sports, no matter how lame it might actually be in reality. Some people may claim to not have time to attend sports, but these people always seem to have enough time to watch six episodes of "How I Met Your Mother" before enjoying a delightful evening of Super Smash Bros.

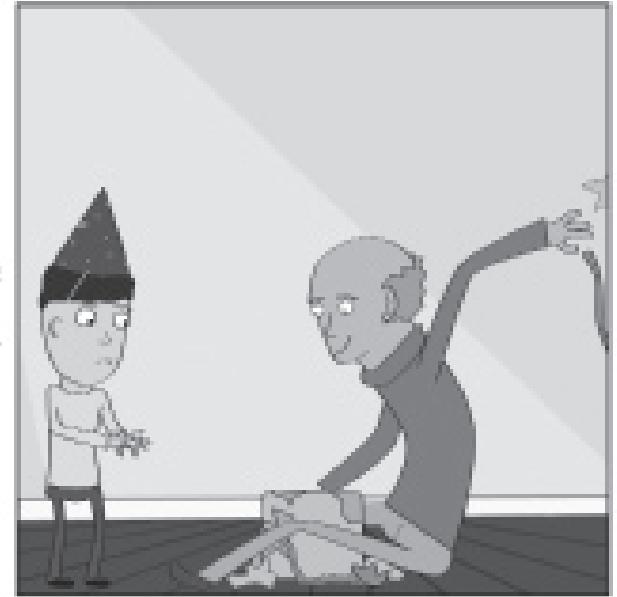
So, I repeat: Caltech is not boring because it is small, it is boring because we make it so. This is the part where I plead. Please,

for the betterment of your school, for the chance in a few hundred years to make the Caltech fields be feared for their ruthless fans, or even just to support the busy student-athletes who attempt to make our campus known not just for being really, really, ridiculously intelligent, come to a Caltech sporting event.

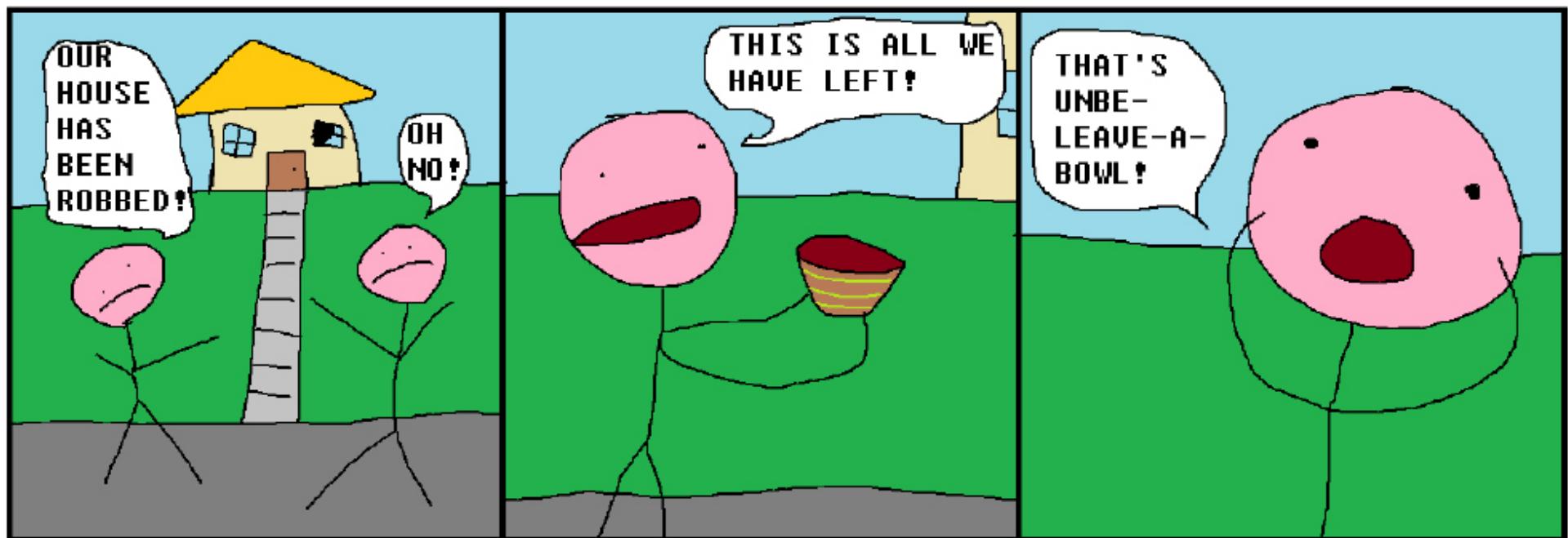
One of the benefits of such a small school is that we can make big changes if we so choose. Let this be ours.

Maybe one day, people will even stop calling us Cal Poly.



Up to my Nipples

Will Moore and Jesse Simons

TRUE CRIMEZ

BY MATT FUNOUSTOS

For more photos, videos, and archives of previous issues, check out the newly revamped Tech website!

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