



ASCIT recognizes excellence in teaching

STANFORD SCHOR
Editor-in-Chief

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News Editor

The 36th Annual ASCIT Teaching Awards ceremony took place at the Athenaeum on Friday evening, May 25, 2012. The ASCIT Teaching Awards are presented once a year by the ARC to acknowledge individuals who demonstrate a commitment to furthering education. In 2003, the criteria were expanded to include teaching assistants as potential awardees.

In a school known primarily as a research institution, the Awards are an opportunity for the undergraduate community to show their appreciation for those individuals who enhance the learning environment at Caltech.

Potential awardees must first be nominated by one or more students familiar with their teaching. Among those nominated this year, the Academics and Research Committee selected eight recipients.

Four faculty members as well as four teaching assistants were honored and presented with plaques denoting their achievement.

Professors John Johnson, Kevin Gilmartin, and Thomas Miller along with French lecturer Christiane Orcel took home the faculty



Sophomores Juliette Becker, Irina Butsky, and Daniel Lo stand alongside Professor John Johnson, the professor whom the trio nominated, as he receives an ASCIT Teaching Award. Other winners included two professors, one lecturer, three graduate student teaching assistants, and one undergraduate teaching assistant.

- Mathieu Blanchard

awards. Teaching assistant Jeffrey Kowalski, an undergraduate, along with graduate students Christine Morrison, Jackie Villadsen, and Ian Finneran went out with the remaining four awards.

While most of the awardees were first-time recipients, Professor Gilmartin received the prize in 1997 as well. He commented that the

attitudes of students had shifted such that it was no longer as much of a challenge to stimulate discussion and interest in the humanities.

After a brief reception and formal dinner, Academics and Research Committee Chair Pushpa Neppala provided a brief explanation of the Awards before asking students who nominated award winners to take turns recounting their experiences in the classroom.

Many included personal anecdotes illustrating how their faculty member or teaching assistant nurtured their respective interests and career aspirations both inside and out of the lecture hall, devoting extra time to foster their personal growth.

At the close of the Awards, Neppala thanked Professor Geoffrey Blake (the Master of Student Houses) and his wife Karen Blake

for sponsoring the event, and ended with a final appeal to the student body to continue to nominate those individuals who place the education of undergraduates as a top priority.

The ASCIT Teaching Awards were first given out in 1976, when Steve Koonin, the former Under Secretary of Energy at the United States Department of Energy, was among the inaugural recipients.

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Helping readers burst out of the Caltech bubble

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

SpaceX mission success	1st private spacecraft docks at the International Space Station	[LA TIMES]
Happily ever after	4 men aboard a small raft were rescued by a Disney cruise ship	[CNN]
JPMorgan offsets losses	\$ 1 billion gained by selling \$25 billion of profitable assets	[CNBC]
Egypt election protests	2 candidates in runoff election – neither favored by revolutionaries	[CNN]
Home prices at new low	↓ 2.6% from a year ago – housing market down 35% since 2006	[CNN]
Violent riots in Peru	2 killed in protests – 70 injured – government declares emergency	[LA TIMES]
Massacre in Houla, Syria	108 civilians killed – about half of the victims were children	[REUTERS]

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

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ASCIT Minutes

Minutes for May 21, 2012. Taken by Allika Walvekar

Officers present: Diego Caporale, Pushpa Neppala, Mario Zubia, Puikui Cheng, Michelle Tang, Allika Walvekar

Officers Absent: Christian Rivas

Call to Order: 10:09 PM

President's Report:

Leadership Conference: There will be a summer planning group to see how the leadership conference will be structured next year

Party Registration might change next year so that the process is much more streamlined

Bars will most likely be allowed on campus.

Officers' Reports:

Secretary: Allika updated the Donut information on Excomm, RevComm Rep, and Health Advocates after contacting all house presidents for information.

She will be updating the Olive Walk Board this weekend.

Social Director: Michelle is working on the plans for Europarty on Friday June 1st in Winnett Lounge.

On Wednesday June 6th, Michelle would like to have a Western Dinner with hopefully a mechanical bull or maybe a pony for pony rides. Details coming soon.

Treasurer: Puikui, Mario, Diego, and Hallacy will be having a budget meeting soon for the coming year's budget. Puikui will start looking for an assistant treasurer soon.

Director of Operations: Mario met with the Big T, little T, and Spectre. The 2010 - 2011 Big T should be coming out by the end of this school year. The 2011 - 2012 Big T should be able to be picked up in Fall 2012 which is on schedule. Mario is serving as a liaison for SPECTRE to better represent their needs.

The current editors of the Little T are planning to add a "Frosh Guide" section and want to update all the current information.

Mario will start looking into all the SAC rooms and taking an inventory of what's inside.

V.P. of Academic Affairs (ARC Chair): Drop Day is this Wednesday and ASCIT Teaching awards are this Friday.

Pushpa will organize appointments for the Student Faculty Committee in early June. Avin (BoC Chair) and Pushpa will be sending out an honor code survey to gauge current opinion. Ishan, the new ARC secretary, will begin working on the ARC website.

Meeting Adjourned: 11:14 PM

Caltech scientists improve armor

KIMM FESENMAIER
Caltech Today Writer

What makes a piece of armor effective? Sure, it needs to be strong, and it should be lightweight. But what is it about a material's composition that gives it such properties?

And can we develop materials that provide even better protection? With decades' worth of investment and preparation, Caltech engineers are particularly well equipped to address such questions as part of a new Army-funded program to improve protective gear and vehicles for soldiers.

The U.S. Army Research Laboratory recently announced that it would provide up to \$90 million to a consortium of researchers—led by engineers at Johns Hopkins University's newly created Extreme Materials Institute—to investigate what happens to protective materials during intense impact.

been made empirically—that is, someone realized that by adding just so much aluminum, a little bit of zinc, and so on, they would wind up with a much stronger product than magnesium alone.

No one has worked out the science explaining exactly why those small additions change the properties of the material, and so it's difficult to say if the alloys are performing at their peak or if the “recipe” could be improved.

“Right now we don't have a predictive model for designing advanced materials,” Bhattacharya says. “We have some theories that guide us, but they really are not fully predictive.”

Developing the level of understanding needed to create such a predictive tool is an incredibly complex problem that requires engineers and applied scientists to tap into their knowledge of multiple disciplines.

They must understand the mechanics across length scales

greater strength or ductility, for example. But they also add a level of complexity; changing the placement of a single atom can have a large effect on the rest of the material.

Along with Bhattacharya, William Goddard III, Dennis Kochmann, and Michael Ortiz will work on the theory side of the problem, using a range of tools developed at Caltech over the last two decades to accurately model the behavior of materials from the subatomic level all the way to the scale of bulk materials.

On the experimental side, Guruswami Ravichandran will investigate how a material deforms, or changes shape, at different scales and temperatures when struck by a high-speed projectile.

Meanwhile, Julia Greer will look at the deformation and mechanical properties of materials at the nanoscale.

“When you have a large chunk of a metal, such as magnesium, it deforms under certain known conditions.

But if you make a very small sample of the same metal, it's going to have very different mechanical characteristics,” says Greer. “So if you're planning on utilizing nanotechnology at all in a production application, you need to know first what your material's properties are at its various scales. We will provide

that experimental data.”

In addition to their participation in the army's extreme-materials project, Caltech engineers are working on several other programs focused on multiscale modeling of materials and the development of damage-tolerant materials.

Ortiz is the principal investigator and director of Caltech's Predictive Science Academic Alliance Program Center, sponsored by the National Nuclear Security Administration, which focuses on the hypervelocity impacts of metallic projectiles. For his part, Ravichandran is heading up a new Center of Excellence funded by the Air Force Research Laboratory; it will look at the physics of what happens to materials ranging from sands to layered composites when they are suddenly struck by a powerful force and deform quickly.

“When you take these major projects together, you see that studying materials in very extreme conditions is an area where Caltech engineering really stand out,” says Bhattacharya. “The tools we bring, on both the theoretical and experimental sides uniquely bridge deep fundamental principles with unprecedented application.”

from the subnanometer level—units smaller than billionths of meters—all the way to materials that can be measured in meters.

They also need to understand how materials behave across timescales from femtoseconds—millionths of billionths of seconds—up to seconds, and at various temperatures and pressures.

“You have to somehow understand this complete hierarchy and how all of these pieces fit together,” says Bhattacharya. “And you have to understand how all of the levels of hierarchy change during a high-velocity impact, such as when a bullet hits armor or a missile strikes a vehicle.”

Part of that requires understanding how the defects in a material will behave.

It would be relatively easy to model a metal with a perfect crystal configuration—where all of its atoms line up to form an ideal lattice.

But as materials scientists like to say, “Crystals are like people: it is the defects in them which tend to make them interesting.”

These defects, such as missing atoms and misalignments, can confer beneficial properties upon the material, giving it



- Caltech Today

The collaboration includes engineers from national laboratories, private industry, and four universities—Caltech, Johns Hopkins, Rutgers University, and the University of Delaware.

“Here at Caltech we have developed a very unique expertise and one-of-a-kind tools for trying to understand the behavior of structural materials across all scales,” says Kaushik Bhattacharya, Caltech's lead in the army effort and the Howell N. Tyson, Sr., Professor of Mechanics and professor of materials science. “What the army recognizes is that such understanding can play a significant role in speeding up the process of developing new materials—a process that can take up to 20 years with standard methods.”

Six engineers and applied scientists from Caltech's Division of Engineering and Applied Science will collaborate on the new project, focusing initially on magnesium alloys and boron carbide ceramics.

Magnesium alloys—known by car buffs thanks to their incorporation into the wheels of fancy cars—are extremely strong, tough, and lightweight. But like most traditional alloys, they have

IHC Minutes

Weekly Meeting in Lloyd on May 22, 2012

Present: Christian Rivas, Misha Raffiee, Zach Rivkin, Chris Varnerin, Jomya Lei, Alan Menezes, Supriya Iyer, Josh Tollefson, Sebastian Rojas Mata, Matt Fu

Minutes Submitted by Misha Raffiee, IHC Secretary

Called to order: 12:13 PM

The event registration form is being altered to make it more user-friendly (faculty and the IHC will be on a committee to discuss the event registration form).

The IHC is working to make house president turnover dates more organized and uniform across all the houses in order to facilitate an easier transition.

A resolution was passed to make Avery an official house as well as for the Avery Chancellor to be a President (rather than a Chancellor). The Executive Committees in Blacker, Dabney, Fleming, Lloyd, Page, Ricketts, and Ruddock all need to approve this in order for the change to go into effect.

Fleming, Dabney, Page, Ricketts, Lloyd, and Ruddock ExComms have all voted to approve the Avery resolution. Blacker ExComm is currently voting on this.

Frosh Camp will be September 24, 25, and 26 in Ventura, with Frosh Camp UCC training on September 22 and check-in day September 23. Current students who are interested in attending Frosh Camp (but not as UCCs) are encouraged to either participate in Challenges and Choices or in Study Habits. In addition, a sexual education program is going to be added to Frosh Camp for incoming freshman.

IMPORTANT: There have been rumors floating around the houses about the number of incoming freshman and the effects of that number on the room assignments for current students in the upcoming year. To clarify living situations for next year, no one with a fall housing assignment will be forced to give up their room in their fall housing contract. Until it is known how the final frosh numbers will play out, nothing is changing.

Ishan, the new ARC secretary, will begin working on the ARC website.

Meeting Adjourned: 11:14 PM

Caltech Couture: Hats are most definitely “in”

ALEX LANGERFELD
Columnist

Summer is fast approaching and so is great weather, hot days in the sun, and refreshing evening breezes.

Being in a subtropical region in California, it is good to be especially cautious when out in the sun. Californians are definitely aware of the strength of the sun's rays, given the number of pasty people walking around with white streaks of sunscreen smudged all over them. The balance of time in the sun has become quite a paradox for me, because it seems like the first reaction of anyone who is not originally from such a sun-soaked place is to go out and take advantage of it.

Personally, I think the sunscreen obsession is a bit over the top. If your skin is so sensitive to the sun, then cover up with lightweight clothing that doesn't smother you with weird chemicals. Besides, getting a bit of sun may even be healthy for you!

What puzzles me the most is people who walk around wearing very little clothing “because it's too hot for long sleeves”, wear polarized UV-proof sunglasses, are caked in three different types of sunscreen (one regular, one waterproof, and one weird bright-blue spray-on) and yet they leave their heads completely bare!

Has the sun-proofing industry not figured out how to sell more high-tech fancy-pants sun-protection products for the head? Well, if people were to figure

out that hats can solve many of these problems, the sun-proofing manufacturers would probably suffer great economic losses. Wearing a hat protects your head from the sun, makes you feel cooler (temperature wise...), and gives your face some shade. A hat automatically eliminates the need for super intense sunglasses, SPF chapstick, and facial sunscreen. Also, people seem to fail to make the connection that if the sun can damage skin it can also damage hair. Overexposure to the sun makes hair dry, brittle, and bleached. Alright, alright, highlights may be in vogue right now, especially in the

summer, but if you're so concerned about your dear skin, shouldn't you care about your hair too?

Besides being practical, hats are also rather stylish. They have unfortunately lost their popularity over the past several decades but it seems as though they are starting a comeback. Winter hats are a separate matter because they are a necessity for many in order to keep warm, so those will never disappear. Recently, stores have been selling many straw bahamas hats for both men and women as well as wide-rimmed sunhats for women and I've been seeing more and more hats on people's

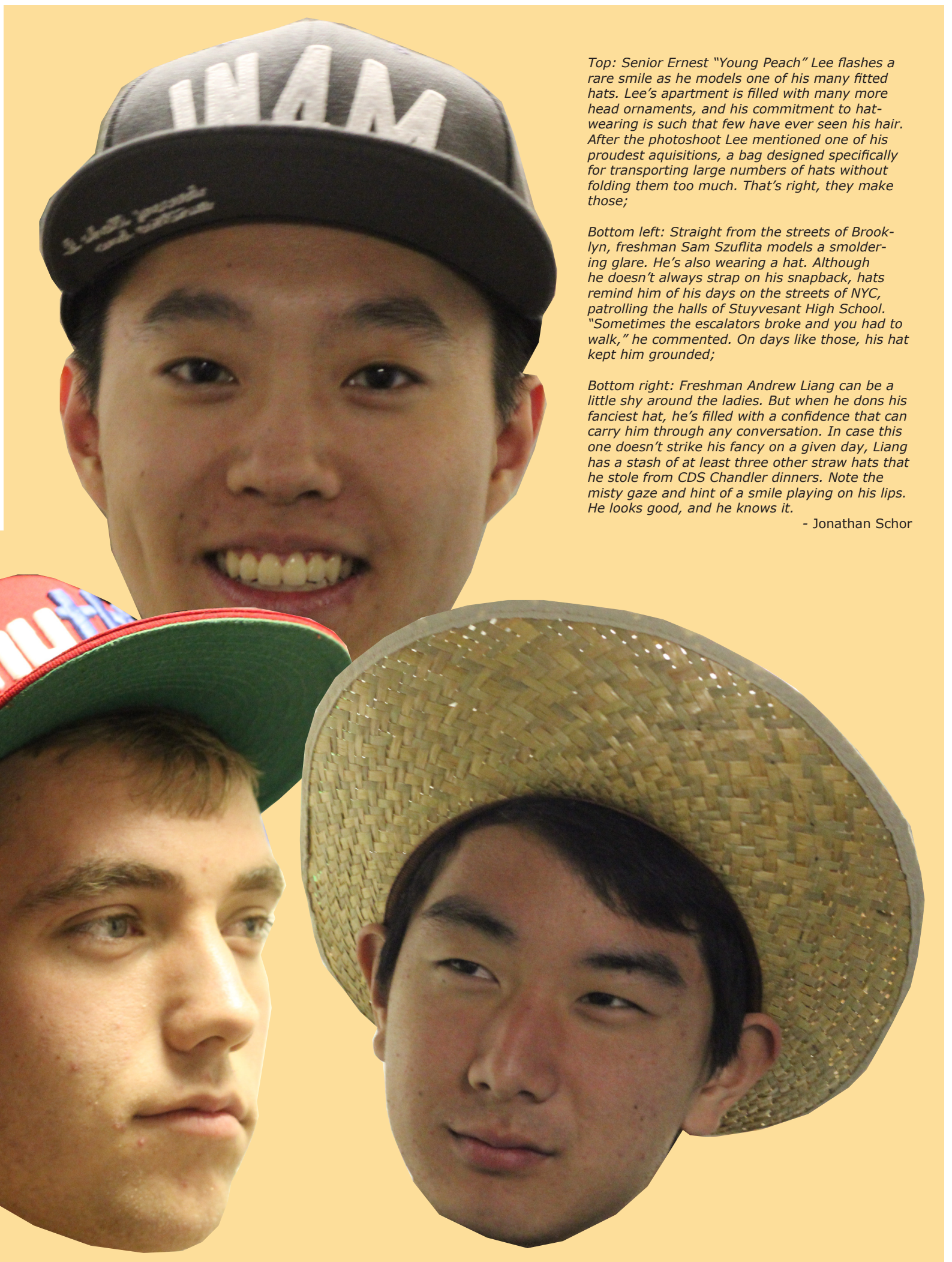
heads! We are still nowhere close to the hat-fashion days when men could not be seen without one and ladies worshipped their hats as the finishing touch to their hairdos. Nevertheless, it seems as though people are starting to return to this very fashionable item.

Now, a few pointers about hat etiquette before you stock up on them. There is a time and place for hats.

Unless you're wearing a lady's hat, which is more of a headpiece than a functional hat, the hat must come off when indoors. Removing your hat is a sign of respect. Sunhats are weekend hats, not work-time

hats and save the huge fancy ones for Sundays and horseraces. Of course, there are certain exceptions when people become identified by their hats. This seems to happen most often with baseball hats and beanies here; in some cases hats help distinguish between two awesome twins!

As with everything style-related, there are exceptions to the rules and if your hat is part of you, and those who know you will understand if you keep it on all the time. Nevertheless, beware of the outside world where people haven't learned yet to identify you by your hat!



Top: Senior Ernest “Young Peach” Lee flashes a rare smile as he models one of his many fitted hats. Lee’s apartment is filled with many more head ornaments, and his commitment to hat-wearing is such that few have ever seen his hair. After the photoshoot Lee mentioned one of his proudest acquisitions, a bag designed specifically for transporting large numbers of hats without folding them too much. That’s right, they make those;

Bottom left: Straight from the streets of Brooklyn, freshman Sam Szufliita models a smoldering glare. He’s also wearing a hat. Although he doesn’t always strap on his snapback, hats remind him of his days on the streets of NYC, patrolling the halls of Stuyvesant High School. “Sometimes the escalators broke and you had to walk,” he commented. On days like those, his hat kept him grounded;

Bottom right: Freshman Andrew Liang can be a little shy around the ladies. But when he dons his fanciest hat, he’s filled with a confidence that can carry him through any conversation. In case this one doesn’t strike his fancy on a given day, Liang has a stash of at least three other straw hats that he stole from CDS Chandler dinners. Note the misty gaze and hint of a smile playing on his lips. He looks good, and he knows it.

- Jonathan Schor

Ditch Day revisited: A photo essay

A day of fun, puzzles, and no classes compiled for your viewing pleasure



Top left: Junior Mariya Vasileva prepares to fire a potato cannon while teammates from her stack look on with baited breath;



Top right: Members of an Indiana Jones stack attempt to emulate Professor Warren Brown's heroic stare into the distance while standing in front of Beckman Auditorium. Brown took on the role of the stack's namesake and guided its members on a quest of knowledge;

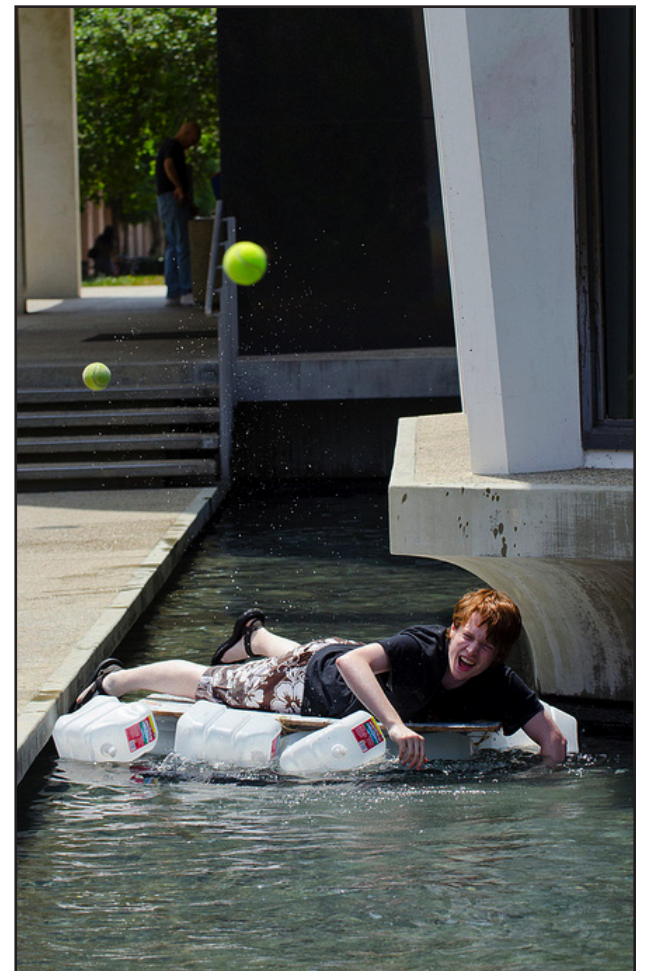
Right: Freshmen Sam Szufliita, Andrew Liang, Max Wang, and Udaya Ghai (from left to right) puzzle over a map during the Barkley, Shut up and Jam: Gaiden stack. Participants had to use the map and an original iPhone app to make their way through a maze composed of QR codes arrayed in front of the Athenaeum;



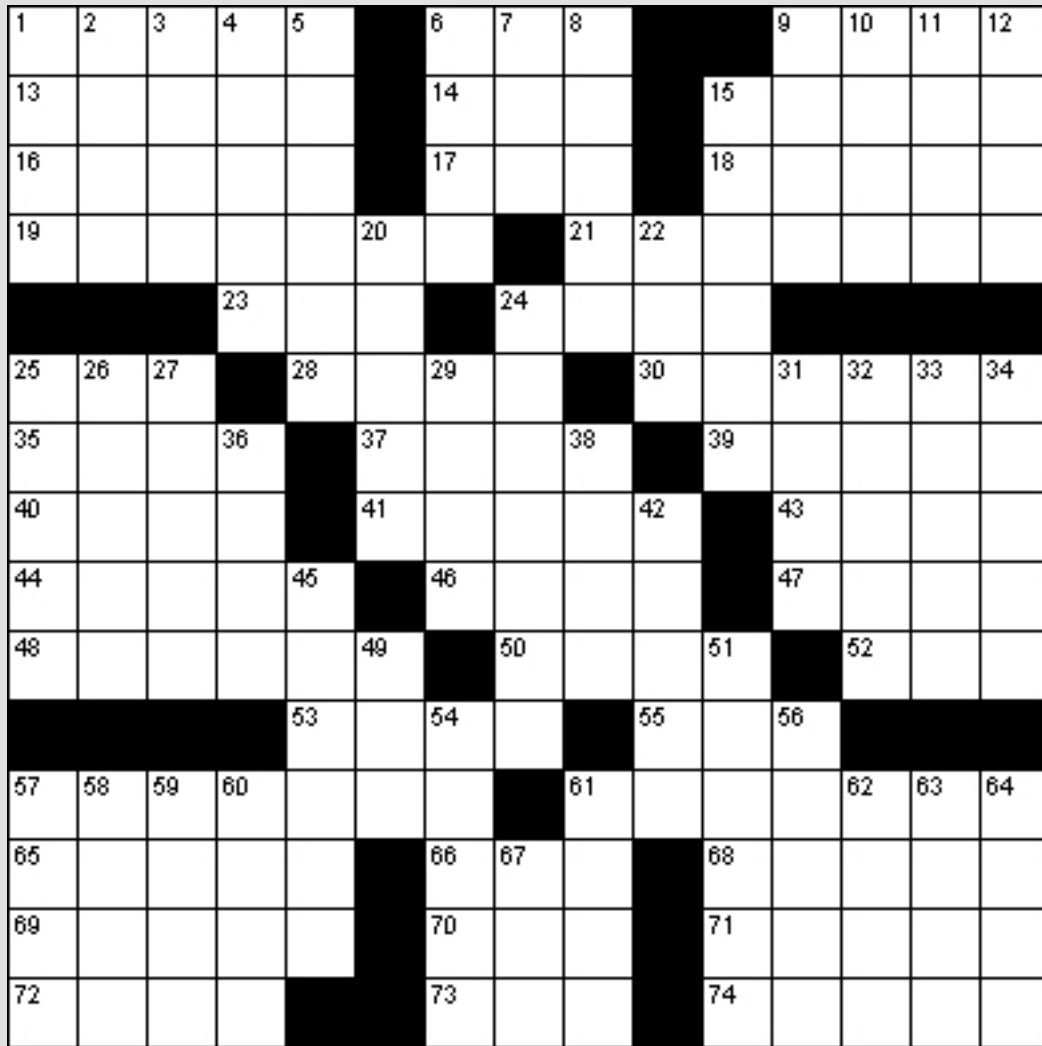
Bottom right: Freshman Xander Rudelis attempts to dodge tennis balls while floating on a makeshift raft in the middle of Millikan Pond. Students know to come prepared for any obstacle on Ditch Day;

Bottom left: An exuberant bunch of Skurves race down the Olive Walk on their way to another activity in the Southern Comfort stack. Each House generates its own stacks, and members are often free to choose from a range of stacks generated by the seniors in that House.

- ditchday.caltech.edu



Today's Puzzle: Crossword



- Across**
- 1. Wanderer
 - 6. Small vegetable
 - 9. Expect with desire
 - 13. Declare
 - 14. Past times
 - 15. Craze
 - 16. Balm
 - 17. Snow runner
 - 18. Lesion
 - 19. Oval
 - 21. Oriental, when viewed from the west
 - 23. Currency of Albania
 - 24. Shell
 - 25. Part of a deck
 - 28. Pleasant
 - 30. Former Spanish currency
 - 35. State of poverty
 - 37. Thwart
 - 39. Poison
 - 40. Against
 - 41. Assembly
 - 43. Part of a ladder
 - 44. Bullock
 - 46. Currency of Mexico
 - 47. Surface boundary
 - 48. Revulsion
 - 50. An attempt to score
 - 52. Snakelike fish
 - 53. Lowest male singing voice
 - 55. Distilled from fermented molasses
 - 57. Part of a church
 - 61. Diffusion
 - 65. Type of puzzle
 - 66. Tavern
 - 68. Knife
 - 69. Imbecile
 - 70. Anger
 - 71. Beer
 - 72. Corsage
 - 73. Unspecified amount
 - 74. Delete
- Down**
- 1. Proboscis
 - 2. Translucent mineral
 - 3. Manufacturing plant
 - 4. Blacksmith's tool
 - 5. Intensify
 - 6. Affectation
 - 7. Moose
 - 8. Farewell remark
 - 9. Stop
 - 10. One time only
 - 11. Wharf
 - 12. Acquire by effort or action
 - 15. Matchlock
 - 20. Small boat
 - 22. Egyptian cobra
 - 24. Inheritrix
 - 25. Covered with water
 - 26. Voice part
 - 27. Go in
 - 29. Bird enclosure
 - 31. Painful
 - 32. Ooze
 - 33. Imbue
 - 34. Cherub
 - 36. Layer
 - 38. Succulent
 - 42. Ties up a boat
 - 45. Physically strong
 - 49. Operated
 - 51. Fall
 - 54. Shade of brown with a tinge of red
 - 56. Tooth
 - 57. Stumble
 - 58. Reconstruct
 - 59. Wading bird
 - 60. Floating marker
 - 61. Comply
 - 62. Heroic tale
 - 63. Part of the Roman calendar
 - 64. Withered
 - 67. Large vase

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

Trouble is brewing for Kanye and G.O.O.D Music

SAM SZUFLITA
Contributing Writer

It is a difficult time to call oneself a Kanye West fan. Then again, it usually is.

Things shouldn't be this way. After the overwhelming success of *Watch The Throne*, Yeezy's collaboration with longtime mentor and friend Jay-Z, West has resumed his G.O.O.D. Fridays initiative.

This project, a (somewhat irregular) weekly music giveaway, has given West a chance to return to his roots and just rap.

The G.O.O.D. songs are generally more gangster rap and less artistic than his usual content, but they are still uniquely Kanye. The G.O.O.D. project also included some early releases off West's 2010 album *My Beautiful Dark Twisted Fantasy*.

So what, then, is the issue? The recent G.O.O.D. songs have been fine. Initially they all seemed a little distasteful, but I find myself coming back for more over and

over again. If there is one quality common to all of West's work, it's his catchiness, which pretty much holds my interest even past the point where my eyes glaze over and I'm drooling on the keyboard in front of me.

The first new G.O.O.D. song released was originally called "Theraflu" ("I'm way too cold, I promise you'll need some Theraflu"), was then renamed to "Way to Cold" for legal reasons, and has now been shortened to

him/.../Lucky I ain't had Jay drop him from the team."

I and many others dismissed this as another one of Kanye's meaningless shoutouts: less than a minute earlier in the song, Ye talks about hanging out with Anna

Kim have been the hot couple, and pictures have surfaced of the two at Cannes, where Kanye debuted his new film "Cruel Summer."

More troubling than the couple's emergence is the upcoming G.O.O.D. music album, which

will have Kanye and many of the artists on his G.O.O.D. label, including Big Sean, and Pusha T. In the past, Kanye's collaborations with this group have brought out the gangster rap side of 'Ye. While this is fine, as all Kanye is good Kanye (sans 808s and Heartbreaks), it represents a shift from the increasingly artistic West.

In my opinion, *Dark Fantasy* represents the peak of West's artistic career, and I was ok with him taking an opportunity to have some fun with *Watch The Throne*. However, his recent singles indicate that he is leaning more

- dimex1.com



Kanye West's recently released music video for *Cold* features a young stand-in for West taking his ill bars to the streets and showing off his statuesque blond companion. Also included in the video are imitators of Donald Trump, Condaleeza Rice, Sarah Palin, and Ronald Reagan.

If the G.O.O.D. songs hold up, then why am I worried?

A new figure has suddenly joined his ever expanding crew, and she's trouble.

"Cold." In this song, West calls out his most recent main chick Kim Kardashian, admitting "...I had fell in love with Kim/Around the same time she had fell in love with

Wintour, the current editor-in-chief of *Vogue*, and go-karting with Anja Rubik, a Polish supermodel. However, this line was enough to set off the media. Recently Kanye and

towards the *Throne* than *Dark Fantasy*. I just hope he hasn't lost what makes him different.

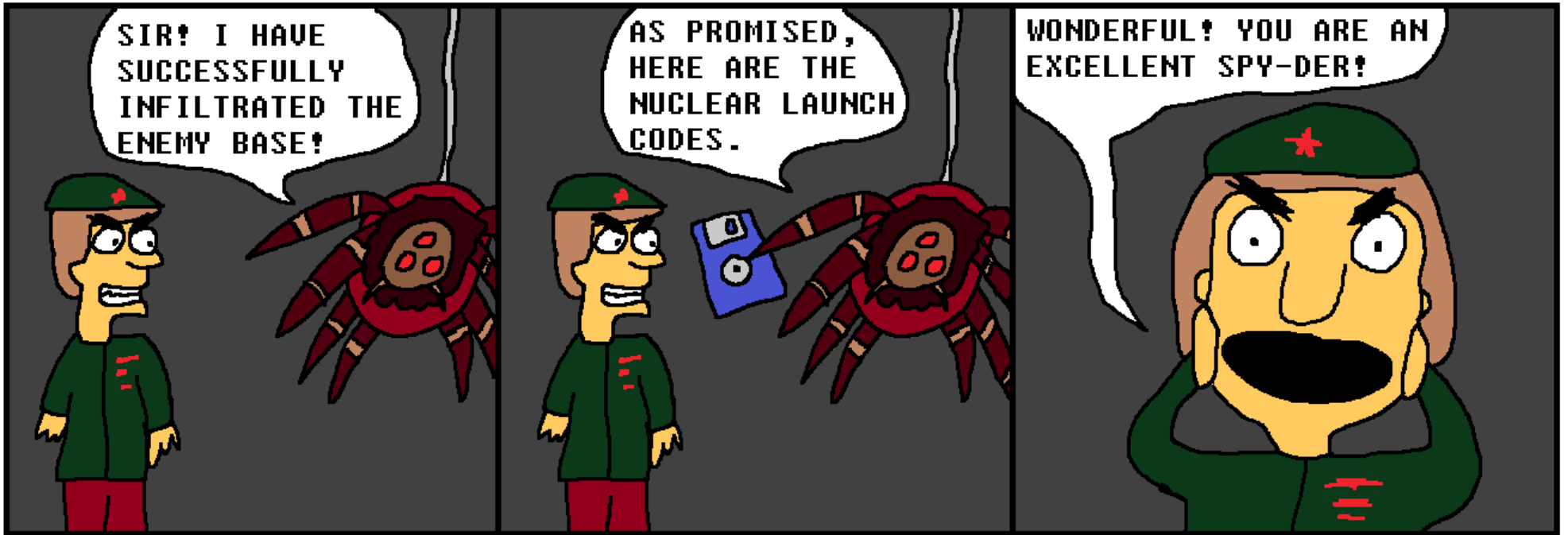
Also, I'm sayin' she a gold digger.

Yeah, I've got nothing. Here are some pictures from gocaltech.com

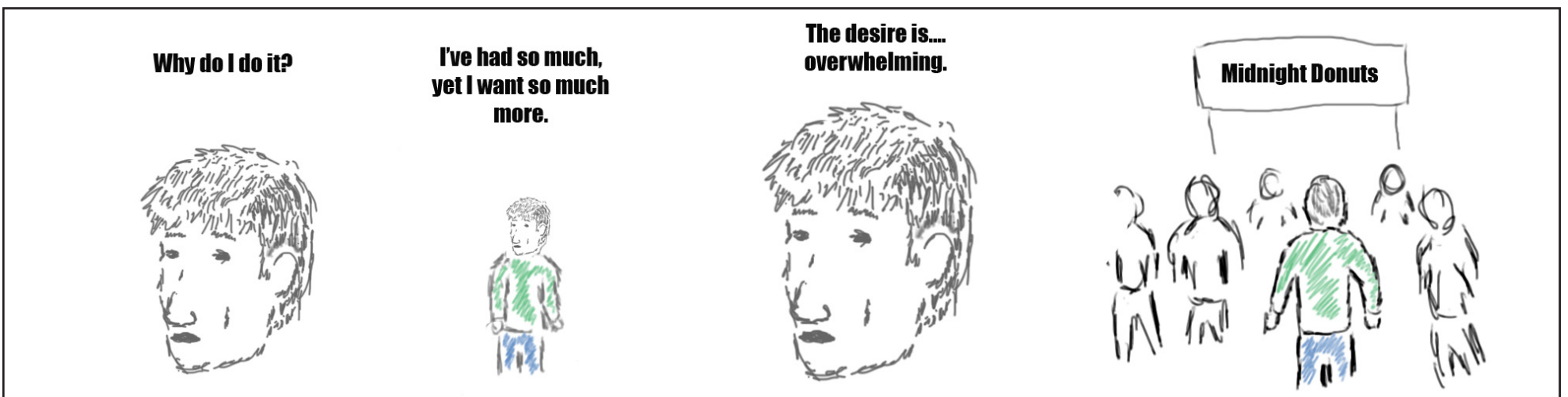


COLD WARZ

BY TOM MOUSCHIE



Acquired Taste



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

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