

# The California Tech



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## Caltech researchers create lightest solid material

**KIMM FESENMAIER**  
Science Writer

When you pick up the newest material in Julia Greer's office, it takes a second for your mind to adjust. Despite its looks, the little brick of metal weighs next to nothing.

Greer, assistant professor of materials science and mechanics, is part of a team of researchers from Caltech, HRL Laboratories, LLC, and the University of California, Irvine, who have developed the world's lightest solid material, with a density of just 0.9 milligrams per cubic centimeter, or approximately 100 times lighter than Styrofoam™. Though the material is ultra-low in density, it has incredible strength and absorbs energy well, making it potentially useful for applications ranging from battery electrodes to protective shielding.

"We're entering a new era of materials science where material properties are determined not only by the microscopic makeup of the material but also by the architecture of the constituents," Greer says.

The new material, called a micro-lattice, relies, appropriately, on a lattice architecture: tiny hollow tubes made of nickel-phosphorous

LLC, and lead author on the report described it as "a lattice of interconnected hollow tubes with a wall thickness of 100 nanometers,

centimeters (but might one day be made meters in length).

Just as with large-scale structures, such as the Eiffel Tower,

as 50 percent, making it excellent at absorbing energy.

"The emergence of the unique properties of these ultra-light micro-lattice structures is due, in part, to the different mechanical behavior that emerges in nano-sized solids, which is the focus of my research," Greer says.

Her team uses a machine called a SEMentor, which is both an electron microscope and a nanoindenter, to visualize the deformation of nano-sized structures and to concurrently measure mechanical properties, such as how much force it takes to break a material, how much energy it can absorb, and how much it stretches.

The extremely small wall thickness-to-diameter ratio in the micro-lattice material makes the individual tubes ductile (i.e. they do not fail catastrophically); at higher aspect ratios, the material simply collapses and cannot recover.

The research appears in the November 18 issue of *Science*. Additional coauthors on the report, "Ultralight



The ultralight metallic lattice displayed above is easily supported by a budding sunflower.

- features.caltech.edu

are angled to connect at nodes, forming repeating, asterisk-like unit cells in three dimensions. Everything between the tubes is open air. In fact, the structure consists of 99.99% open volume.

Tobias Schaedler, a research staff scientist at HRL Laboratories,

1,000 times thinner than a human hair."

The material takes advantage of a hierarchical design: the wall thickness can be measured in nanometers, the diameter of each tube can be measured in microns, each tube is millimeters in length, and the entire micro-lattice material can be measured in

where order and hierarchy can lead to more efficient use of materials and improved properties, the same can be achieved by ordering materials on a tiny scale.

In addition to its ultra-low density, the micro-lattice's hierarchical architecture allows it to recover almost completely from loads that compress it by as much

Metallic Lattices," include Caltech postdoctoral scholar Jane Lian, as well as Alan Jacobsen, Adam Sorensen, and Bill Carter from HRL Laboratories, and Anna Torrents and Lorenzo Valdevit from the University of California, Irvine. The research was funded by the Defense Advanced Research Projects Agency.

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## News briefs from around the globe

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#### 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](http://barnett.caltech.edu/news)

**Leading Economic Index ↑0.9%** – largest rise in 8 months – measure of future economic activity [AP]

**New leadership in Spain** **186** of 350 seats won by conservative party amidst debt crisis [NY TIMES]

**Police suspended** **2** officers punished for pepper spraying seated protesters at UC Davis [BBC]

**FDA approval revoked** \$ **100,000**/year drug Avastin may no longer be used for breast cancer [AP]

**Chevron oil site leaking** ~ **2,600** barrels (110,000 gallons) spilled so far – 230 miles from Brazil [AP]

**No US debt deal** \$ **1.2 trillion** package needed – no consensus – partisan disputes [REUTERS]

**Violence in Egypt** **13** protesters killed by police – demands for civilian government [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](mailto:tech@caltech.edu)*

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## Write articles for the Tech

**get paid up to \$30**

## CHILLAX - A relaxation group for stress management

Mondays 12-1; October 24 – November 28, Winnett Lounge  
FREE

Health education and the counseling center are proud to sponsor a 6 week to educate and teach students how to manage their stress. The group will cover time management, muscle relaxation, getting great sleep, mindfulness meditation and dealing with holiday and exam related stress. Lunch is not provided but there will be participation prizes and giveaways.

### November 21 – Mindfulness meditation

Come join us this week as we focus on mindfulness meditation. It's a great way to become more engaged in the present moment, and to put some distance between yourself and your unpleasant thoughts.

### November 28 – Coping with holiday and exam stress

## 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](mailto:kkerbs@caltech.edu)) or Stacey Scoville (626-395-6320; [staceys@caltech.edu](mailto:staceys@caltech.edu)) in the Provost's Office.

# Letters to the Editors: Concerning recent events

## *There really is only one Caltech*

**JOHN YAO**  
Alumnus

This is not about Rotation, traditions, or hazing. This is not about specific actions of the administration or the undergraduates.

This is about the honor system and the Caltech community -- the fundamental ideas that make Caltech unique. This is a reminder to all members of the community to embrace these ideas and in doing so improve the Institute.

“

But we must not forget that the honor system extends beyond academic life. The students need to re-examine whether all their actions adhere to their values, especially those that are shielded by ‘tradition’ or were previously tolerated.

”

The honor system embodies a trust and responsibility that must continue to be actively maintained, by the administration and by the students.

The faculty and the administration must preserve and strengthen the honor code, not circumvent it. They need to encourage the undergraduates' sense of responsibility and ownership towards Caltech as a whole. This can only be accomplished by having students participate in the process, whether it concerns discipline, admissions, or changes to student life. Unilateral actions and punishments will only marginalize students and may result in compliance, but not in cooperation.

The faculty should not be satisfied with crude results -- they teach us to strive for elegant solutions. Such solutions protect the interests and the reputation of the Institute in a manner that stays true to its core values. We are all bound by the honor code and its many implications.

The students must be active and conscientious members of the community. They must adhere to the honor system in order to preserve it. Cheating or cut-throat competition may be a way of life elsewhere, but it's not what the students do at Caltech. They look out for each other. They offer help and support.

These are the values of the honor code, and they are well represented in the academics at Caltech.

But we must not forget that the honor system extends beyond academic life. The students need to re-examine whether all of their

actions adhere to these values, especially those that are shielded by “tradition” or were previously tolerated. They are responsible for each other and they should be the first ones to intervene if another is in need.

Finally, they must remember that the Caltech community is greater than themselves, and that these courtesies and responsibilities extend to others as well.

These ideas should continue to be championed by the student and the administration leaderships.

only because it extends to all aspects of Caltech. As for us alumni, we are eager to provide help and support -- after all, that is what Techers do. We are a diverse group, spanning decades of experience, representing members of all houses and of none.

We all have different, even shifting, views on the details of student life and how the undergraduate system should function. We need to realize that these specific issues will be the subject of an ongoing dialogue within the Caltech community. We need to accept that the current

incarnation of Caltech will inevitably differ from how it once was.

But we all can agree, there is a persistent part of Caltech and the honor system is part of that soul. We are all passionate about Caltech, because we know the warmth of this community, and because we want to ensure

its continuation. The alumni can help by voicing their support for Caltech and sharing their ideas, which come with the benefit of perspective and distance.

We were not directly involved in the recent events.

We are a little older and some years removed from our own time there. We can admit and understand the mistakes we made as students and we can appreciate the responsibilities of the administration. We should express our concerns to students just as we should share our support for Caltech, in its entirety, with the administration.

In the end, it is only together that we can preserve the honor system and the essence of Caltech.

Since graduating, I have learned how precious and rare a community like this is. It may be that the rarity of this attitude elsewhere portends its eventual demise at Caltech. Different attitudes such as the honor system simply does not work.

That it is naive to trust or depend on others. That the Caltech way of life was just a dream. I could not more strongly disagree. I believe that the success of the honor system is more than a transient phenomenon.

I believe that the Caltech community can preserve the honor system, and thereby preserve itself.

I believe that Caltech was, and can continue to be, something special. I believe that, whatever our differences, we can all share in this goal.

John Yao, B.S. '04

## *Hazing at Caltech poses a real threat*

**CHRISTINA KONDOS**  
Contributing Writer

He is also taking the ethical action by putting the well being of students above complaints about ruining “traditions.”

I stand wholeheartedly behind his decisions.

Why should a house feel entitled to know who made sexual harassment claims against them?

For him to give out that information would be illegal and wrong.

Also, what would the house do with that information - have reasonable, non-threatening conversations with the complainant?

If you want proof that someone felt uncomfortable with the hazing in the house system, here I am. My name is Christina Kondos, and I almost left Caltech after experiencing rotation.

If you wish to have a reasonable conversation about the house system, I would be happy to talk with you.

I am happy I stayed at Caltech, but that is in spite of the culture of Caltech.

The saddest part about Caltech is that I would be unable to recommend the school to any young woman of my acquaintance who was looking for an undergraduate experience.

H. Christina Kondos  
Class of 2012

”

For me, jokes about rape lost their appeal after I worked in a women's shelter...but what do I know? I've spent the last few years of my life dedicated to improving human rights around the world, but I should have done more here.

”

## Note from the Editors

The editors of *The California Tech* appreciate all of the feedback received over the past week. We have always strived to encourage constructive conversation regarding contentious campus issues, and would like to elicit continued dialogue between members of the administration and the student body.

One of the most widely-held concerns voiced in many of the opinion articles in the recent Special Edition of *The Tech* is the lack of

communication between members of the Caltech community. It is likely that this lack of communication fueled some of the confusion and subsequent anger on campus.

It is our hope that future scenarios such as this one may be averted by a willingness to maintain unrestricted and open conversation among all sections of the University.

The above Letters to the Editors symbolize an important first step along this path.

# On Overloading: Well-meaning, but misguided policy

**ANONYMOUS**  
Contributing Writer

This year, I signed up for a standard 53 units of classes. Upon learning of a newly offered class that I was extremely interested in, I also applied for an overload of 62 units. I took advantage of the "comments" section of the overload form to explain that some of my classes are widely known to be under-united, and that some of my classes were under-united to me specifically due to my personal prior experiences. I was denied. Upon a request for an explanation, I was told certain times that very day that the dean was available. I replied that I was not available that day and asked for times the next day that I could possibly meet with the dean.

I didn't receive a response.

I went ahead and continued with my 62 units of work anyway, deciding that it might make more sense to have proof that I was actually capable of handling the workload.

Recently—way past add week—I finally decided to prod again and received the chance to talk to the dean. Since midterm grade reports had come out, I had evidence that I was handling my documented 53 units well. I also had a letter from

the professor of my additional class stating that I was doing well. Unfortunately, when I did have a chance to talk to the dean, all she could tell me was that due to 'systems in place,' there was no chance of me getting credit for the work I had done.

Sure, no one had told me that by doing the work there was a guarantee that I would be recognized for it. But that didn't stop me from being furious. I had heard of other students with similar workloads getting their similarly United overloads approved right off the bat. Students whom I work with on sets; students whom I HELP with on sets. Here I was with clear evidence that I could handle the work, and the school wasn't willing to support me? What happened to fostering an environment that encourages learning?

Maybe I was a bit too presumptuous in assuming that the administration would take the time or bend the rules enough to consider my case specially. Maybe I should have just tried to handle the situation immediately, rather than take what I felt was a more reasonable course of action. I do acknowledge that I was, in effect, trying to make my own rules,

and I can't fault anyone else for that. But I thought the power of Caltech was in its small size, in its community's ability to understand each other on a level not available at larger institutions. But my own situation, along with recent events,

Of course, there are cases where people who apply for overloads simply should not be able to handle them. But I feel like Caltech needs to modify their system so that students who can demonstrate their abilities to handle large workloads

approved. Measuring students by the metric of GPA is, as in my case, not necessarily a determinant of their ability to handle the workload of the present.

After all, GPA is a fact, but it is a fact based on the past that does not represent a student's ability in every possible facet. If I simply do not understand quantum mechanics, does that necessarily mean that I'm going to do badly in the heavily practical computer science class I'm adding? Similarly, Caltech's uniting system is not perfect, as any student can

attest to. 62 units does not actually mean 62 hours of work a week all the time for every student. Using the same measuring bar for every case of requested overloads due to sticking to a "system" is hurting students who don't happen to fit nicely into some guidelines rigidly set by administrators who, to their credit, are trying their best to cater to the 'general case.'

I would love to go into more detail, but I have 62 units of work to get back to, 53 of which I'm actually getting credit for.

“

Here I was with clear evidence that I could handle the work, and the school wasn't willing to support me? What happened to fostering an environment that encourages learning?

are making me feel as though Caltech is a little bit too obsessed with sticking to a stringent one-size-fits-all set of rules.

At large institutions, where faceless students are represented more by their ID numbers than their faces, it makes sense to simply use measurements and solid facts to determine a student's ability.

But here at Caltech, don't we have a small enough student body that we can stand to give each overload a face and a chance to defend itself?

(despite what the administration feels they can do) should be able to get credit for it. What Caltech needs to realize is that people need to be recognized for the work they are willing to do and are capable of doing well (even if others believe they aren't capable of doing it). After all, isn't that what made this school famous?

I suggest that students be given a buffer period until midterms to do the work and demonstrate that they are capable of handling their overloads before they are actually

# The Muppets revives classic for modern audience

**SANDHYA CHANDRASEKARAN AND AMOL KAMAT**  
News Editor  
Sports Editor

After an absence of over ten years, the Muppets are back, storming the big screen with an eccentric flare second only to Gonzo the Great's cannon shenanigans.

The basic storyline is one that we have all heard before – a feel-good tale of how a misfit seeks to gain acceptance in a world that does not understand him. The protagonist, Walter, has always faced rejection from his peers at school who are quick to judge him based on his puppet-like appearance. Although his brother, Gary (Jason Segel), has never allowed this disparity to come between their relationship, Walter feels lost and dejected, that is, until he happens to watch reruns of "The Muppet Show" on TV one day.

Walter immediately becomes infatuated with the Muppets, and yearns to meet them in person. When Gary invites Walter along on his anniversary trip with his long-time girlfriend, Mary (Amy Adams), Walter finds himself on the verge of having his dream come true.

Upon arriving at the Muppets studio, much to his dismay, they find themselves in a vacated wreck. However, as Walter covertly wanders off from the tour group, he overhears a conversation where he learns that evil oil tycoon Tex Richman is plotting to seize the

studio for his own selfish purposes under the guise of helping save it from ruin. Distracted, Walter appeals to Gary and Mary for help in finding Kermit the Frog, who he knows will have a plan to stop this scheme.

After Walter tells Kermit that the only way the studio can be saved is if the Muppets can raise \$10 million dollars within the week, the group decides to reunite the Muppets, who have long since dispersed, to put on a telethon to raise the necessary funds.

The movie does a great job of maintaining the classic feel of the first Muppet movie while still keeping up with 21st century humor.

It will appeal to a whole new generation that has not yet witnessed the Muppets while evoking a strong sense of nostalgia in those who grew up with them. The fact is, the world has largely forgotten about the Muppets, so this idea of "getting the gang back together" works very well. Not only does Kermit rediscover his old pals, but the audience does too.

Another highlight of the movie is the perpetual question that the protagonists ask themselves, "Am I a man or a Muppet?"

While the accompanying musical number provides comic relief during a rather stressful point in the movie, the issue is one that every one of us, in one way or another, must face as we grow up. Gary has essentially put his life on hold because he is afraid to

leave the brother who has needed him for so long. Walter is scared to take the first big step and join a group that wholeheartedly accepts him for who he is. As they attempt to move forward with their lives, the audience cannot help but look back and reflect on its journey with the Muppets over all these years.

The all-star cast, which includes Jack Black, Academy Award winner Chris Cooper, and many celebrities in cameo roles, did a great job bringing the new musical numbers to life (Bret McKenzie of "Flight of the Conchords" was the music supervisor, so Conchords fans should know what to expect), and director James Bobin, also of "Flight of the Conchords" fame, really captured the essence and humor of a Muppets movie.

Spending ninety minutes watching this group of hooligans was certainly a comforting reunion. The movie will be released in theaters everywhere on Wednesday, November 23.



- disneydreaming.com

# The Tech meets with actors from *The Muppets*

**AMOL KAMAT**  
Sports Editor

For the first time since 1999, the Muppets will be starring in a feature length film. Opening November 23, "The Muppets" is a story about reuniting old friends. For those of us who grew up with the Muppets, we will certainly feel reunited as well. But, what about introducing a new generation of kids to the Muppets? In an interview at the Muppets press junket, Kermit the Frog seemed to think that this would be quite simple.

"Well it's easy, you just say hi there, my name is Kermit, nice to meet you," Kermit joked, before getting serious. "That's kind of what we're doing, though. I think this film maybe seals the deal, ya know?" Miss Piggy, ever the drama queen,

added, "I would feel very sad if there was somebody out there who did not know who moi was and did not have the opportunity to be entertained by moi."

Jason Segel, who produced, stars in, and co-wrote "The Muppets,"

of comedy is so pure and so kind. I thought it was important for kids to have that influence in their lives."

Segel and co-writer Nicholas Stoller pitched the idea for a new Muppet movie to Disney following "Forgetting Sarah Marshall"

as his first comic influence and the reason for his love of puppetry.

"I love [puppets]. I think they're wonderful things," said Segel, pausing for awkward laughter. "It definitely is an art form. The honest answer is that I am a super weird puppet guy. I love the Muppets and the Tim Burton movies. It's just a tone that I like. These things take place in a world that we exist in, and so you feel like maybe it could happen in real life."

Segel and Stoller enlisted James Bobin ("Flight of the Conchords") to direct. Bobin, a first time feature-film director, felt that his time on "Flight of the Conchords" was helpful when it came to directing "The Muppets."

be funny, but you don't have to be mean about it. That's what the Muppets have always done, but for me, coming off of 'Flight of the Conchords,' Bret and Jemaine were never mean to people: they were stupid. Sure that's funny, but they weren't mean, and that helped me tonally."

"Flight of the Conchords," it seems, was very influential in the making of this film. Bret McKenzie, creator, co-writer, executive-producer, and star of Conchords, was the music supervisor for "The Muppets" and also wrote and produced three original songs for the film. Overall, "The Muppets" is a successful throwback to an older style of movie making that remains relevant in the modern world.

Kermit described it best when talking about his new version of "The Rainbow Connection": "I hope it's still a relevant song, and I think people still like it. It's nice to have a chance to reintroduce it to new folks, ya know?"

"I would say the same is true of 'Mahna Mahna,'" added Walter, the newest addition to the Muppets ensemble.

"Those lyrics are just as pertinent today as they were in the seventies."



- fusedfilm.com

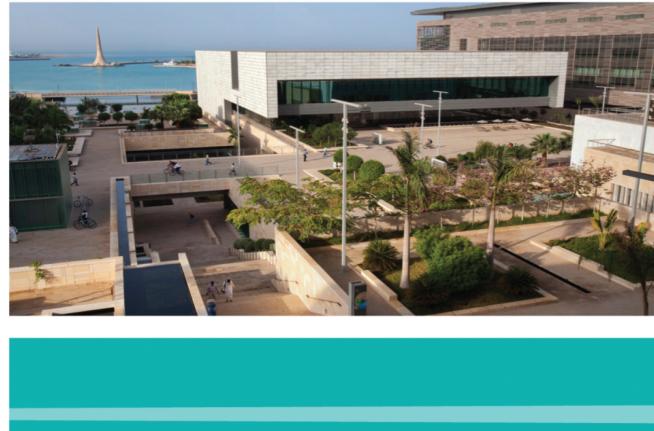
felt that this was the perfect time for a Muppets movie:

"Comedy goes in cycles and we have arrived at a very cynical stage of comedy, and the Muppets' style

(which was Directed by Stoller and stars Segel) in which there is a "puppet musical." Those puppets were made by The Jim Henson Company. Segel cites the Muppets

"Comedy for a long time has been cynical, and I love the idea now of coming in this different direction. It's going to be more about big jokes, gags, and stupid puns. You can still

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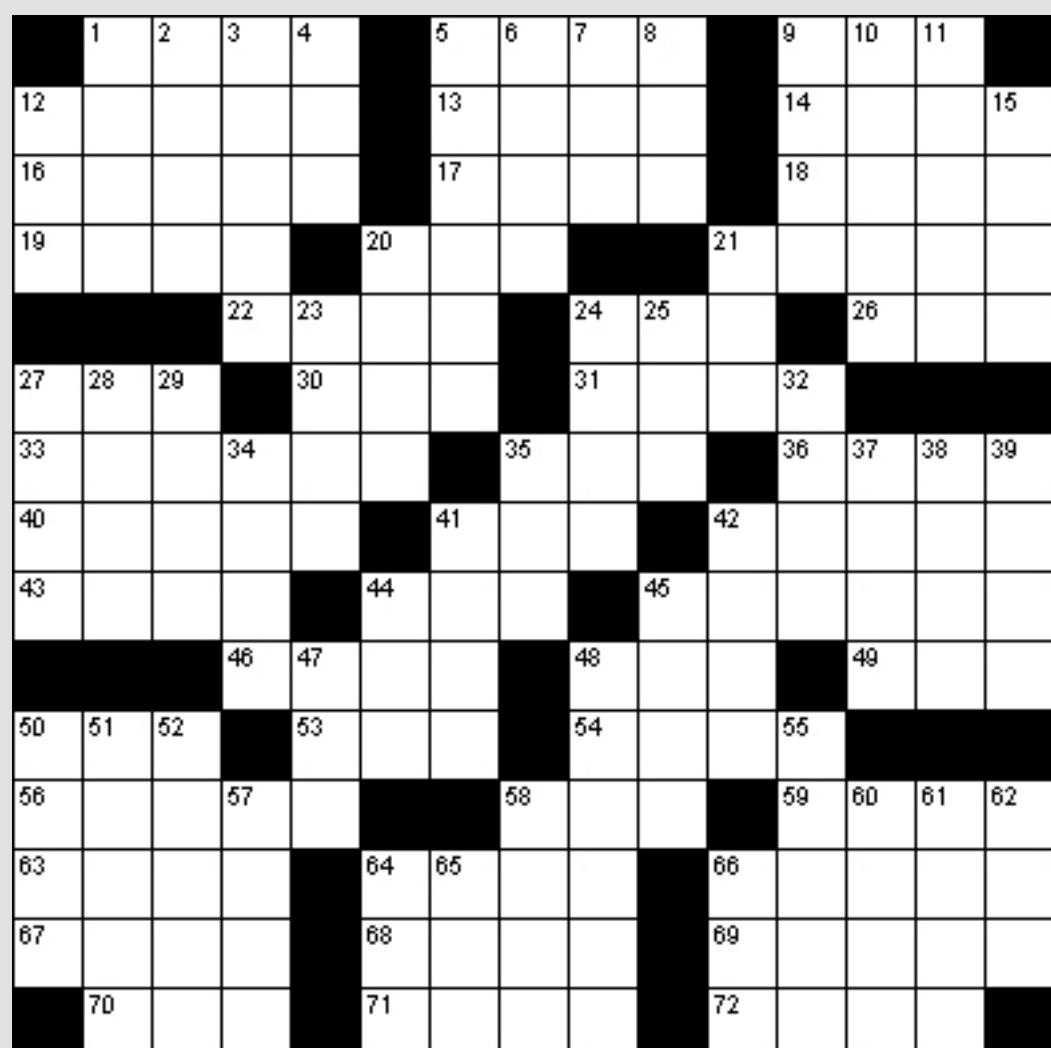
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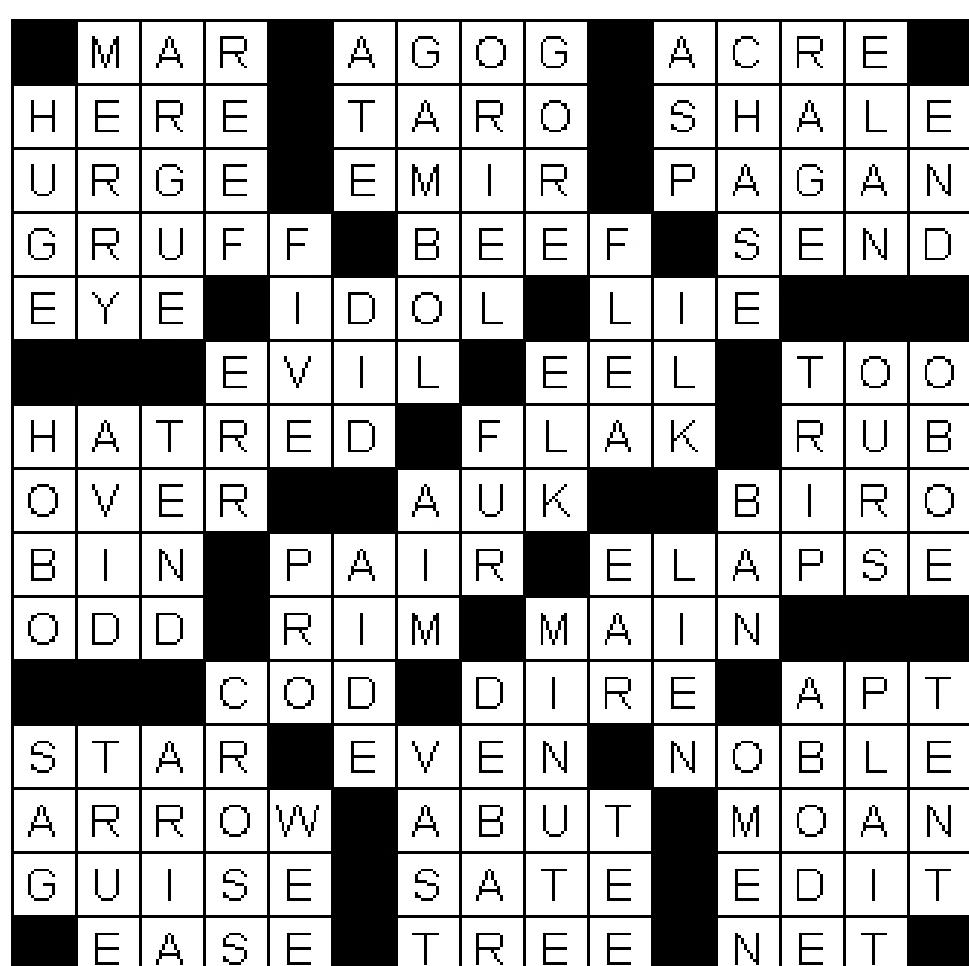
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- |                          |                         |                                     |
|--------------------------|-------------------------|-------------------------------------|
| <b>Across</b>            | 50. Vegetable           | 24. Rise upward                     |
| 1. Distort               | 53. Roman deity         | 25. Appropriate                     |
| 5. Symbol                | 54. Shopping center     | 27. Examine closely                 |
| 9. Form of transport     | 56. Unsound             | 28. Pallid                          |
| 12. Beer                 | 58. Guided              | 29. Singing voice                   |
| 13. Not any              | 59. Chances             | 32. Close                           |
| 14. Division of quantity | 63. Settled a debt      | 34. Part of a volcano               |
| 16. Satire               | 64. Affirm              | 35. Part of a cereal                |
| 17. Vista                | 66. Expect              | plant                               |
| 18. Conflagration        | 67. Land measure        | 37. Supplicate                      |
| 19. Surface boundary     | 68. Circular band       | 38. Small island                    |
| 20. Electrically charged | 69. Transport back      | 39. Manducate                       |
| particle                 | and forth               | 41. Small bird                      |
| 21. Frequently           | 70. Beverage            | 42. Gangster's girlfriend           |
| 22. Employment           | 71. Instance or example | 44. Epoch                           |
| 24. Unhappy              | 72. Woody plant         | 45. Fermented honey and water       |
| 26. Finish               |                         | 47. Choose, usually followed by for |
| 27. Health resort near a |                         | 48. Come out into view              |
| spring                   |                         | 50. Insect, between adult           |
| 30. Compete              |                         | and larva                           |
| 31. Overt                |                         | 51. Ordain                          |
| 33. Young domestic       |                         | 52. Ablaze                          |
| cattle                   |                         | 55. Move something down             |
| 35. Consume              |                         | 57. Notion                          |
| 36. Long narrative poem  |                         | 58. Part of a camera                |
| 40. Change               |                         | 60. Challenge                       |
| 41. Armed conflict       |                         | 61. Desperate                       |
| 42. Wetland              |                         | 62. Pig pen                         |
| 43. Inert gas            |                         | 64. Part of a circle                |
| 44. Stray                |                         | 65. By way of                       |
| 45. Team spirit          |                         | 66. Toward the stern                |
| 46. Ripped               |                         |                                     |
| 47. Snakelike fish       |                         |                                     |
| 48. Coniferous tree      |                         |                                     |
| 49. Finished             |                         |                                     |

## Down

- |                       |  |  |
|-----------------------|--|--|
| 1. Part of a hospital |  |  |
| 2. Excited            |  |  |
| 3. Regenerate         |  |  |
| 4. Be nosey           |  |  |
| 5. Call forth         |  |  |
| 6. Metal money        |  |  |
| 7. Single             |  |  |
| 8. Novel              |  |  |
| 9. Afficionado        |  |  |
| 10. Join together     |  |  |
| 11. Sea nymph         |  |  |
| 12. Fib               |  |  |
| 15. Look after        |  |  |
| 20. Part of the eye   |  |  |
| 21. Poem              |  |  |
| 23. Finished          |  |  |

*Answers to last week's crossword from puzzlechoice.com*



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

## Upcoming Events: The Caltech Y

**November 22:** Science Policy Lunch with Dr. Baltimore. Space is limited. RSVP required.

**November 24:** Dinner in the Park. Join a group of Caltech students at Central Park in Pasadena for Union Station's Dinner in the Park - Community Thanksgiving Meal.

**November 30:** Social Activism Speakers Series with Jeremy Scahill. Ramo Auditorium, 7:30-9:30 PM

Jeremy Scahill is one of the few US journalists who independently ventured into Afghanistan and was not embedded with US military forces or with the Afghanistan government. He returned from his trip with fascinating stories derived from first-hand observations, interviews, and videos about the real status of the war in Afghanistan.

# Caltech womens' basketball team loses season opener to Pacific University



Caltech senior Teri Juarez takes a shot against Pacific University on Saturday. It was one of many shots throughout the game. There were also rebounds and fouls. It was cool.

- Amol Kamat

**AMOL KAMAT**  
Sports Editor

In their season opener, the Caltech women's basketball team was dominated by Pacific University (Oregon), losing 75-25. The Beavers' defense held strong early in the game, holding them to just seven points in as many minutes. Unfortunately, the Caltech offense could not keep up, remaining pointless until Rachel Hess made a jumper eight minutes in. Of course, by this time, the Pacific University offense had woken up and went on a scoring rampage, and the Beavers limped into halftime down 41-7.

Determined to make it to double digits, the Caltech offense came out swinging in the second half, scoring six points in the first six minutes. They ultimately put up 18 second half points, which is much

more than seven. Alas, the Caltech defense still could not contain the explosive Pacific offense, and they soon extended their advantage to 50 points, which they maintained until the final buzzer.

The day was not all bad, however. Individual efforts against this strong Pacific team were quite impressive. Rachel Hess scored a game high 13 points and Teri Juarez had a game high 10 rebounds.

The relatively young Beaver team seemed understandably nervous in this opening game, but some of the coaching decisions were just confounding. Coach Marbut's decision to have Susan Ballantine inbound the ball with a hail mary pass on several occasions, for example, not only never worked, but it made the Beavers look rather silly and inexperienced (although the calls for pass interference from

the Pacific fans sort of made up for the embarrassment).

Perhaps more embarrassing than the actual game was our lack of mastery over the scoreboard, shot clock, and buzzer system. On numerous occasions, the game was delayed to fix discrepancies between the two shot clocks. When the buzzer for the shot clock did go off, the Athletics staff had trouble turning it off. This made for a rather unpleasant environment (it also angered some of the Pacific fans beyond belief, so I guess it was worth it).

Hopefully the team can rebound (basketball pun +1) from this loss. They certainly showed promise at times, and if they can keep that up, I don't think it's inconceivable for them to get at least one win this season. The women take on MIT this Friday at 8:00 pm at home.

## Weekly Scoreboard

**November 19, 2011**

*Women's Basketball  
vs. Pacific (Ore.)  
L, 75-25 Final*

*Men's Basketball  
at Vanguard  
L, 78-63 Final*

**November 13, 2011**

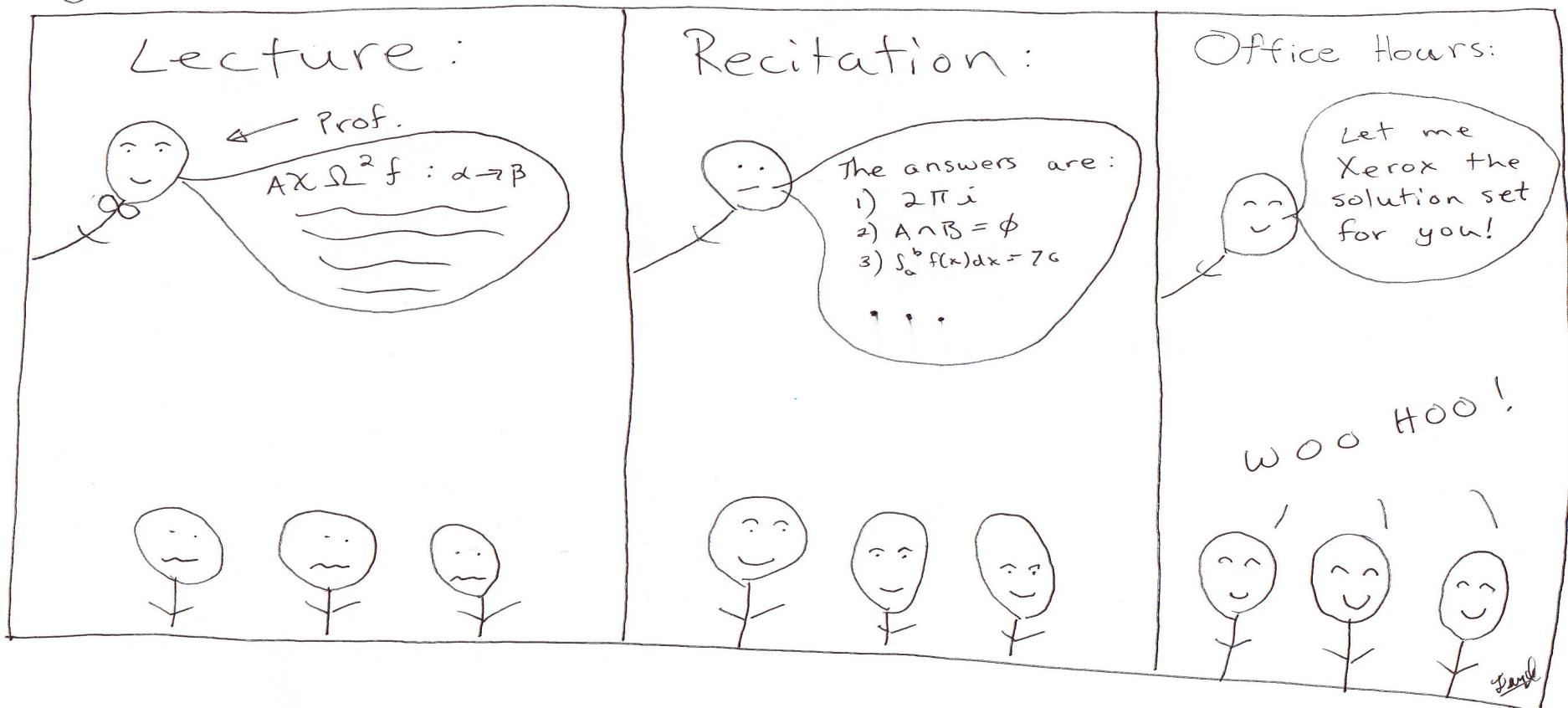
*Men's Water Polo  
vs. Occidental  
L, 16-10 Final*

**November 12, 2011**

*Men's Water Polo  
at La Verne  
L, 19-12 Final*

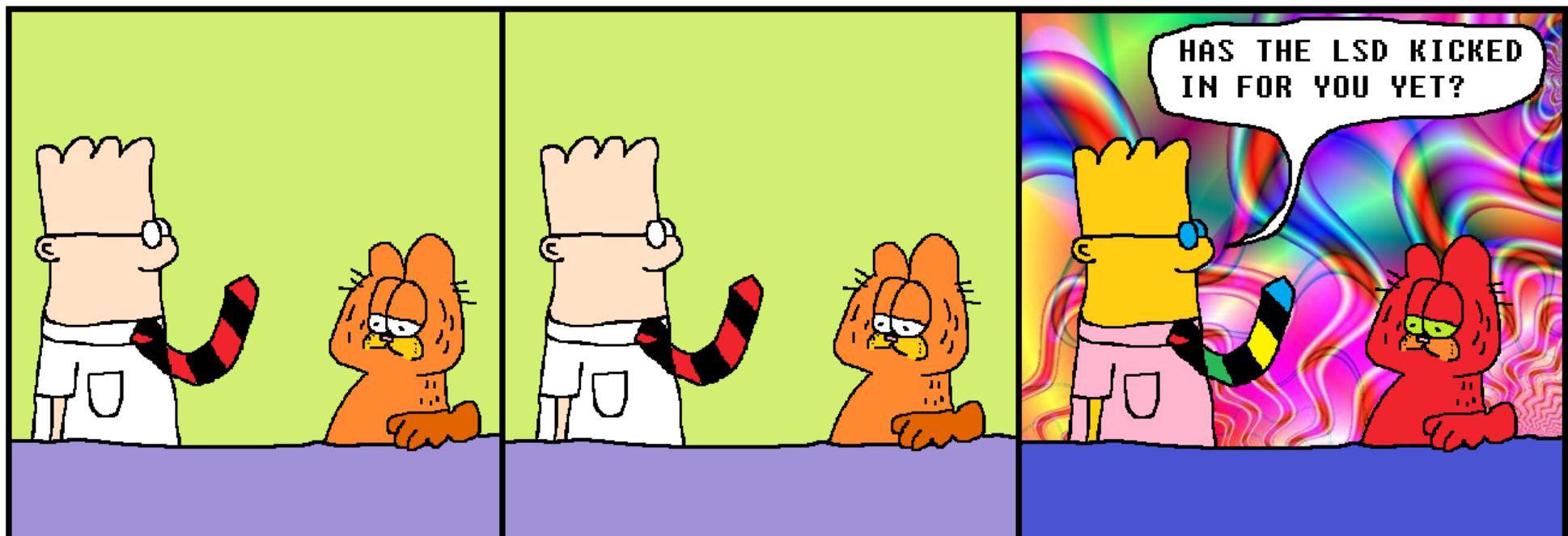


*Blackout!*



DILBERT VS. GARFIELD

BY GREG MARLEENS



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

[tech.caltech.edu](http://tech.caltech.edu)

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