VOLUME CXXI NUMBER 24

PASADENA, CALIFORNIA

TECH@CALTECH.EDU

APRIL 30, 2018

ASCIT'S Hot New Jewents now. Next year, I changes to the ASCIT

AMRITA RHOADS Editor-in-Chief

A round of voting on Monday, April 23 brought a rearrangement ASCIT's Board Directors. Sakthi Vetrivel, reelected to the position president, **ASCIT** expressed gratitude at the chance to support the student body again. In a statement, Vetrivel said: "Thank you for giving me this opportunity to represent your voices again! I'm very excited about moving forward this year with working on the [Advisory Committee on Residential Life] and streamlining **ASCIT** funding. It's a[n] honor to be involved in student government, especially at a small school like Caltech. Because of our size, we're in an incredibly unique position to [effect] real change around campus and engage in discussions

dream of. I'm thrilled to continue taking advantage of that."

Dana He, previously secretary, ASCIT was elected treasurer against opponent NO. After her election, she expressed that "being able to advocate for the student body and work to improve student life is something that means a lot" to her, and that she is "excited to have the opportunity to serve another year on ASCIT alongside the rest of the BoD next year." He replaces Varun Shanker, who was elected director of operations in this round of elections.

to be involved in student government, especially at a small school like Caltech. Because of our size, we're in an incredibly unique position to [effect] real change around campus and engage in discussions with the students and how students at other schools

Alice Zhai, reelected to ASCIT social director, said in a statement: "I am incredibly honored to be reelected as social director. I have a better idea on what events work with the students and how to successfully organize

hope to continue planning unique, fun events, and I cannot wait to work with my fellow ASCIT officers and students. Feel free to contact me if you have any feedback on or ideas for events." Shanker, as the new director of operations, expressed similar sentiments and encouraged students to reach out if they had questions or concerns.

NO was elected ARC chair in the absence of any viable candidates. Since no petition calling for a special election was submitted, RevComm deferred to the ARC for an appointment. The ARC appointed Erika Salzmann as its chair on April 29. The appointed position of ASCIT secretary will be decided at a later date.

Monday also allowed Caltech's undergraduates to vote on proposed changes to the ASCIT bylaws. Vetrivel described the first amendment as "a matter of using inclusive language. It was a little odd that all of the pronouns in the bylaws were male, especially since the Board of Directors was all female this past year." This amendment passed with a roughly three-quarters majority of nonabstaining votes.

student body The also voted to move the responsibility for certain appointments campus from the IHC to ASCIT. Vetrivel explained the rationale behind this amendment, noting that it "was proposed since the IHC is responsible for representing the interests of the houses, ASCIT is responsible for representing the interests of the student body at large, so it makes sense that this would fall under ASCIT's jurisdiction.

It also allows lessen the load on our incredibly hard working IHC." This amendment's title and text included removing the position of Tech editors from elections, and making it an appointed position instead. However, the competence of the current Tech editors convinced the student government that this power was not one they needed to take away from the student body. The amendment proposed to remove the monthly meeting requirement for RevComm failed by a narrow margin, achieving 64.7% out of the 66% affirmative votes required from nonabstaining

Editors' Note: The title of this article is not a comment on the appearance of any members of the BoD.

members.



THE CALIFORNIA TECH

Summary of ACRL Report 2

Editor-in-Chief

Advisory Committee The Residential Life's second report, which was released on April 25, outlines their recommendations for the allocation of freshman beds throughout the residences for the coming academic year. The report also includes other recommendations regarding the relationship between residence in Bechtel and House membership. A summary of key points of the report can be found below:

- 245 freshman beds should be reserved, distributed throughout the residences as shown in the table below. This number will be revised based on the actual number of freshmen who commit.
- The 36 freshman beds in Bechtel should come from two 12-person detailed motivations suites and two six-person suites. recommendations, is These suites will be near single studaff.caltech.edu/acrl.

rooms reserved for Peer Advocates to provide support for the new students.

- future years, unaffiliated individuals should be prioritized when picking into Bechtel and Marks/Braun because unaffiliated students generally have fewer residential options under the four year residency requirement.
- Rotation should allow freshmen living in Bechtel to gain full membership in a House through Rotation to account for possibility of more freshmen wanting to participate in Rotation than the Houses can physically accommodate.

The above recommendations will be reevaluated annually.

The full report, including more for these available at

Location	Number of freshmen beds	For reference: freshmen number in 2017-2018	
Avery	33	37	
Blacker	24	27	
Dabney	19	22	
Fleming	25	29	
Lloyd	28	31	
Page	30	34	
Ricketts	20	23	
Ruddock	30	34	
Bechtel	36	0	
TOTAL	245	237	



This week's recommended Tech usage after reading was brought to you by a dedicated reader. Photo courtesy of Aaron Shih.

SCIT Minutes

Meetings are every week in SAC 13

ASCIT Board of Directors Meeting

Minutes for April 29, 2017. Taken by Dana He.

Officers Present: Sakthi Vetrivel, Kavya Sreedhar, Erika Salzman, Sarah Crucilla, Alice Zhai, Dana He

Guests:

Call to Order: 9:17 pm

President's Report (Sakthi):

- ASCIT elections happened.
- ACRL report came out.
- 1st round of Bechtel picks happened.
- Will be selecting ASCIT Secretary on Saturday, signups close Wednesday.
- 2 of the 3 bylaw changes passed.

Officer's Reports:

V.P. of Academic Affairs (Kavya):

- New ARC Chair appointed- Erika Salzman.
- Ombuds training went well.
- SFLs will be in May.
- ASCIT Teaching Awards nominations coming out soon.
- Compiled list of professors looking for student researchers. Getting ready to release list to undergraduates.
- Catalog request highlights: new frosh hums, restructuring of some physics courses.

V.P. of Non-Academic Affairs (Sarah):

- ACRL finished 2nd report and is starting on 3rd report.
- Houses will have input in Rotation, still unsure about in what way.
- Looking into new algorithms that are not gameable.
- Just passed new Rotation Rules. Will be released by May 1st. There are a few changes from PFW.
- Will probably have another open meeting soon about Rotation.

Director of Operations (Sara):

Not in attendance.

Treasurer (Varun):

Nothing to report.

Social Director (Alice):

Sending out survey about what types of events students would like.

Secretary (Dana):

Nothing to report.

If anyone has any questions or concerns about a section of the minutes please email the appropriate officer. We are happy to answer any questions.

Meeting Adjourned: 9:49 pm

ARC Minutes

Meetings are every week in SAC 13

ARC Meeting Minutes 4/29/18

Present: Kavya Sreedhar, Allison Tang, Michael Yao, Alex Reeves, Erika Salzman, Alejandro Lopez

Announcements

Congrats to our new ARC Chair, Erika Salzman!

ASCIT Teaching Awards: nomination period has started! If your nominee wins, you are invited to the Athenaeum awards banquet (date TBA)

The ARC website at arc.caltech.edu has more information about what the ARC does if you are interested. We meet every Sunday at 11am in SACB122 and our meetings are open to everyone! If you have any questions, please feel free to email ksreedha@caltech.edu.



The best nominations tend to describe specific ways a prof/TA has helped your academic experience.

EDITORIAL

Hands

Off

Syria!

MILAN ROBERSON, REGGY GRANOVSKIY

Editoral Team

Early on the morning of April 14, while the pre-dawn calls to worship Damascus, throughout cruise missiles weaved through the air as the Syrian air defense systems engaged. Depending on whom you ask, anywhere between 22 and all 105 of the missiles launched reached their targets. President Trump, along with Prime Minister Theresa May of the U.K. and President Emmanuel Macron of France, claimed that, in response to the alleged usage of chemical weapons by Syrian government forces in Douma, they were compelled to target sites they said were critical to the Syrian government's ability to manufacture and store chemical weapons. Their justification rests upon the following points: chemical weapons were used by the Syrian government in Douma, the selected targets were vital to the Syria's allegedly active chemical weapons program, and the attacks would protect civilians by severely hampering said program. Even if we were to accept all of their flawed or false hypotheses, the attack is still reprehensible for the violent, imperialistic, and hypocritical trend it exemplifies and the assumption that Western intervention in the Middle East will ever bring anything good to the region.

Claiming that chemical weapons were used by any actor in a war is a serious allegation, and one that should not be lightly thrown about. Therefore, until the Organization for the Prohibition of Chemical Weapons has sent its Fact Finding Mission to Douma, we should be careful when bandying about accusations of chemical warfare. A primary consideration in a criminal investigation is a determination of motive. The use of chemical weapons, especially on civilians, a morally reprehensible act of war illegal under international law, invites sanctions and repercussions from the wider international community. It therefore seems to be something done as a last resort, or as a desperate act of a regime trying to turn the tide of a war it is losing. Neither of these are the case for President Bashar Assad of Svria and the Syrian Arab Army. When we examine Syria's civil war, it is evident that Assad's government is winning: even sources opposed to Assad's government admit so, from the U.S. Department of Defense to Saudi Arabia's Ministry of Defense. In particular, an agreement had recently been brokered to have all rebel forces evacuate Douma and return control of the city to the Syrian government. There was no motive for the Syrian government to use chemical weapons in Douma.

In addition to the lack of a motive, at the time the airstrikes were planned,

executed, and announced, there was no firm evidence that chemical weapons had been used in Douma. The only pieces of evidence that chemical weapons had been used by any party in Douma were videos on social media of medical workers pouring water on alleged victims and statements made afterwards by an array of opposition groups. Saudi-backed rebel group Jaish al-Islam, which held Douma until April 15, was the first to point the blame for the alleged chemical weapons attack at Assad. Statements released by any opposition group should be read carefully as they have something to gain by decrying Assad. Among the first Western journalists to visit Douma to investigate what happened was acclaimed war reporter Robert Fisk. Writing for the Independent, Fisk reported that eyewitnesses he spoke to in Douma claimed that no gas attack had occurred. Fisk spoke to Dr. Assim Rahaibani, a worker at the clinic shown in the video recording. In Dr. Rahaibani's own words:

"I was with my family in the basement of my home 300 meters from here on the night but all the doctors know what happened. There was a lot of shelling and aircraft were always over Douma at night — but on this night, there was wind and huge dust clouds began to come into the basements and cellars where people lived. People began to arrive here suffering from hypoxia, oxygen loss. Then someone at the door, a White Helmet, shouted 'Gas!' and a panic began. People started throwing water over each other. Yes, the video was filmed here, it is genuine, but what you see are people suffering from

hypoxia — not gas poisoning." Fisk paraphrases that the story Rahaibani tells is not one of a chemical weapons attack but of "oxygen starvation in ... tunnels and basements ... on a night of wind and heavy shelling that stirred up a dust storm." Rahaibani's account agrees with the story told by the well-known Syrian opposition group Syrian Observatory for Human Rights, which reported that "up to 70 ... have suffered suffocation as a result of the demolition of home basements over them due to the heavy and intense shelling" by the Syrian government. Fisk also met with multiple locals who knew nothing of the alleged chemical weapons attacks. Other members of the journalist convoy Fisk travelled with interviewed residents whose versions of events included the use of chlorine gas, a suffocant and irritant. On April 10, the Syrian government extended an invitation to the OPCW to investigate Douma. It doesn't seem plausible that a guilty party would ask international investigators to clear their name, when the OPCW has previously concluded that chemical weapons had been used in Syria. The residents of Douma do not unanimously claim that chemical weapons were used on April 7, with different accounts being told and different versions of the story being spread by different opposition groups. Without a verdict from the OPCW, there continues to be no substantial proof today that chemical weapons were used. We can mourn the lives of civilians that were lost in the retaking of Douma without repeating the lies told by their captors.

Allegedly, the targets chosen were critical to the chemical weapons program of the Syrian government. While Gen. Dunford claimed that the Barzeh Scientific Research Facility in Damascus, one of the known target sites, was used for the "research, development, production and testing of chemical and biological warfare technology," the OPCW had in fact previously cleared the Barzeh facility of producing chemical weapons. In a report released on March 23, 2018, the OPCW said that "the analysis of samples taken during the [November 2017] inspections did not indicate the presence of scheduled chemicals in the samples, and the inspection team did not observe any activities inconsistent with obligations under the [Chemical Weapons] Convention." The third largest international news agency, Agence France-Presse, spoke with Said Said, an engineer who said he was the head of the center's paint and plastics department. Said said that the research facility had been making antidotes to scorpion and snake venom and running tests on chemical products commonly used in making food, medicine, and children's toys. As a civilian pharmaceutical and chemical research center, Said said that they had not expected to be hit. The Pentagon claimed that its other two targets, the Him Shinshar military installations, were storage sites for the nerve agent sarin and its precursors. Perfect for the safe destruction of such dangerous stored agents, the Pentagon's Defense Threat Reduction Agency has developed two "agent defeat" munitions meant to specifically neutralize chemical and biological weapons. However, both options, the BLU-119/B CrashPAD and the HAMMER, are 2,000 pound warheads and could not have been carried by any of the three types of missiles used in the April 14 attacks. which could only carry 1,000 pound payloads. The use of conventional munitions to attack alleged chemical weapons storage facilities carries the deadly possibility of dispersing, and not destroying, the chemical weapons allegedly stored, resulting in thousands of civilian deaths in a release of chemical weapons more severe than what the airstrikes were supposed to be punishing. Thus it is either the case that Washington, London, and Paris do not care about spreading chemical weapons to the civilians neighboring the Him Shinshar installations, or they knew that no chemical weapons were stored there.

Both of these possibilities are damning as they show either a disregard for the lives of Syrian civilians or an ulterior motive in launching the airstrikes.

There also exist concerns about Western forces striking government targets near areas held by Daesh, the derogatory Arabic acronym for the Islamic State of Iraq and the Levant. As the DOD communicated to the Russian Ministry of Defense that airstrikes were incoming, Russian and Syrian aircraft vacated the airspace over Damascus. Just a few hours after the airstrikes had ended, Daesh fighters near the al-Yarmouk camp attempted to take advantage of the Syrian government's temporarily neutralized air superiority in order to capture new ground in the southern districts of Damascus. Their offensive was fortunately short-lived and quickly repelled by the firepower and manpower of the SAA. While this was almost surely not coordinated between the U.S., the U.K., France and Daesh, considering that Daesh has been known to make opportunistic offensives often, Western military leaders should have considered that their cruise missiles were likely to unwittingly be used as air support for terrorists and included this and its potential consequences in their

Finally, if we were to accept that Assad used chemical weapons in Douma, that the selected targets were critical to the Syrian government's chemical weapons program, and that their destruction could be accomplished without further endangering civilians and destabilizing the region, we must consider the context in which the U.S. has decided its intervention is necessary.

While supposedly governments that use chemical weapons should have their capability to manufacture, store, and deploy them destroyed by foreign powers through any means necessary, it is justified for the U.S. to use tear gas, a chemical weapon banned from usage in warfare by the Chemical Weapons Convention, against Native Americans protesting the construction of oil pipelines extremely likely to leak crude oil into their water sources. Poisoning civilians with sarin and chlorine makes one an evil dictator, but knowingly poisoning the water supplies of racial minorities for years in Flint, Michigan is an act worthy of the greatest nation on Earth. After all, imperialist aggression is the duty of the world's police, the United States of America, land of the free and home of the brave.

If you are appalled by this disregard for human rights, if you denounce the hypocrisy of imperialists, if you care for the safety and security of the Syrian people, join us in saying, "Hands off Syria!"



ANNOUNCEMENTS

Upcoming Events

EDITORS-IN-CHIEF

The Upcoming Events column serves to inform students of upcoming events. The list is compiled by the Editors-in-Chief from information available around campus.

Dish & Discuss: The Terror of Terrorism

Tuesday, May 1st | 12 PM | Avery Dining Hall | CCD

What does terrorism mean to you and how can we be thoughtful of the use of this powerful word. Join in a dialogue where we learn how to be critical in our consumption of media, stereotypes, and information that contextualizes terrorism.

Caltech Cares Day

Thursday, May 3rd | 11:30 AM| San Pasqual Walk Caltech Cares Day is a resource fair to engage the community in the services and resources offered on campus to support the mental health and well-being of students, postdocs, faculty and staff.

IMPLICIT Improv STAR WARS Comedy Show!

Friday, May 4th | 7:30 PM | TACIT House

Aaaaaaaand... we're doing it again! Next Friday, May 4th, IMPLiCIT is presenting Star Warsthemed fully improvised SHOW! We'll be bringing together some scruffy-looking nerf-herders and laser brains to play short-form games inspired by the best space opera for nostalgic muppet lovers and John Williams fans. The end of the show features an unscripted improvisation of Episode IX (because honestly, do we even believe Disney has a plan?).

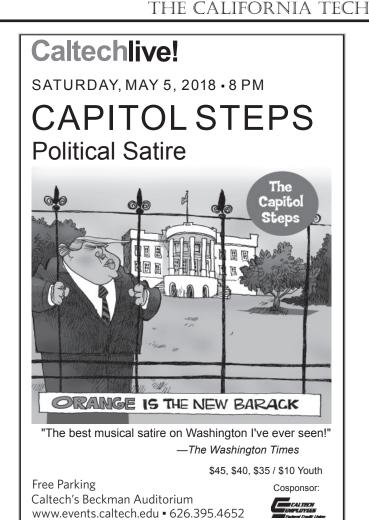
Come if you're a hardcore SW fan, if you controversially love Jar Jar, or if you're just looking to have a blast(er)!

The Capitol Steps

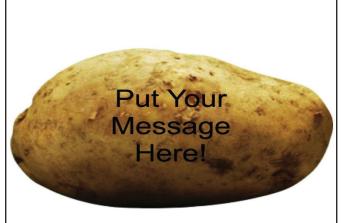
Saturday, May 5th | 8 PM | Beckman Auditorium

The Capitol Steps have elevated political satire to an art form. Before The Daily Show, Full Frontal, and The Colbert Report, this Washington, DC-based comedy troupe gave audience laugh cramps with their bipartisan lampooning.

It doesn't matter if you're a Republican or Democrat, a snowflake, or a deplorable: neither side is safe from the group that puts the "MOCK" in Democracy!



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podium makes Hu champs debut SCIAC track

GOCALTECH.COM

Actual Sports Content Editor

REDLANDS, Calif. (Apr. 28, 2018) -Freshman Claire Hu and the Caltech men's and women's track & field team expanded upon yesterday's success by scoring in six events on Saturday. Hu concluded the day with a successful 5000m run to debut on the SCIAC track & field podium.

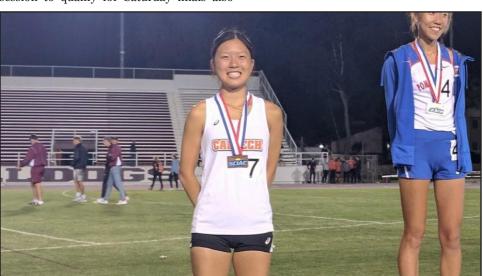
Hu ran to an extremely impressive 18:03.90 to finish third among 38 SCIAC competitors, including sophomoe Nicole Feng, who finished the same race in 21:30.07. Hu's time set a new PR and in turn, improved upon her 5000m program record. The rookie's top three finish comes on the heels of an Second Team All-SCIAC year in cross country, making for one of the most accomplished combined seasons in recent memory. Additionally, Hu's six points from placing third helped the Beavers finish ahead of Chapman University in the overall conference standings. The men's 5000 also saw a modicum of success, with sophomore Tanner Moore leading the way with a new PR, a 15:25.03, en route to a ninth-place race finish, positioning himself fifth on the all-time list. Caltech had sox representatives in the 40-man field, including Moore. Junior Rohan Choudhury crossed the line behind Moore (15:55.97) and was followed by a couple of big PR's from junior Joey Hong (16:34.16) and freshman Alex Popov (16:35.61). sophomore David Fager and sophomore Bhairav Chidambaram (17:04.69) then finished the race in that order, with Fager picking up a big personal best (16:39.58).

Two of the three Beavers from yesterday's session to qualify for Saturday finals also

figured into the team's final score. Freshman Nora Griffith (1:05.04) finished in the top-5 of a nine-woman 400m hurdles field. Griffith has had herself a monstrously successful freshman campaign as the current holder of the 400h and 200m dash records in addition to being second in two other events. Freshman Matthew Earney and sophomore Simon Ricci each secured top-10 finishes in the men's 1500m run, finishing in 4:04.34 and 4:07.34. Earney took sixth-place and set a new PR while Ricci nearly matched his PR from yesterday which allowed him to qualify.

Caltech also surprised in the throwing events. Sophomore Alexa Lauinger earned Caltech one point with an eighth-place finish in the javelin (30.06m), though her biggest personal gain came in the hammer throw where she set a new PR by more than a full meter. (34.37m). On the men's side, senior Zane Murphy's standout throw came in the javelin when he picked up a big PR he had previously not been able to hit since his very first meet back in February 2017. Murphy's 38.43m crushed his previous best throw by over one meter. Freshman Daniel Rostovtsev also picked up his own personal best in the javelin (33.61m).

The Beavers also had representation in both 4x400 relay events, with each men's and women's team clinching eighth-place finishes, adding to the Beavers' point total. Earney combined with sophomores Tiger Lu and Jesse Cai, in addition to freshman Michael Brown to clock in at 3:31.52, with Lu anchoring the team. Griffith, meanwhile led the women's race, and along with classmate Krystal Brodsky junior Michelle Marasigan crossed the finish line in 4:19.37. Both teams finished ahead of the Chapman relay groups.



A suspicious lack of running in this photo...

-gocaltech.com

SCORES

April 28, 2018

Baseball at Chicago

L 4-7

L 1-15

April 29, 2018

Baseball at Chicago

L 4-7

L 3-11

in Three qualify for track SCIAC's day at

GOCALTECH.COM

Actual Sports Content Editor

REDLANDS, Calif. (Apr. 27, 2018) -The Caltech men's and women's track and field team had a successful start to the 2018 SCIAC Championships on the heels of a day that offered a little bit of everything by way

Three Beavers took advantage of Friday's preliminary rounds to punch their ticket into Saturday's finals. The day's conditions started warm without a cloud in the sky, but as the sun began to wane so too did the temperature. Freshman Nora Griffith ran well enough in the 400-meter hurdles to advance to tomorrow's final. Griffith also competed in the 100m hurdles and now owns the second-best time in program history.

In addition to Griffith, two men had had exceptional performances in the 1500m race and earned their way into tomorrow's finals. Sophomore Simon Ricci paced himself to a 4:07.16 and fifth-place finish in the first heat to successfully PR and set himself up with a scoring opportunity tomorrow. Rookie Matthew Earney, meanwhile took a different approach to the second heat. Earney jumped out to an early lead and led for much of the race before settling into a sixth-place finish in the second heat (4:06.29) to join Ricci in the 1500 finals. Senior Gene Vaughan (Mission, Texas / Sharyland), who competed in the second heat of the same race, ended his Caltech career with yet another personal best, crossing the line at 4:36.25. Freshman Haoyuan Sun also set a new personal best (4:46.51) in what should be one in a string of many to come. Two women competed in the 1500, junior Melissa Gutierrez and sophomore Nicole Feng. Gutierrez finished the race as Caltech's top finisher, and set a new PR by nearly two seconds (5:05.30) to come in 15th in a 47-woman field spanning

The 3000m steeplechase also yielded positive results for the Beavers. Freshman Spencer Morgenfeld made his third appearance in the event and once again enhanced his time by 20 seconds. Entering the event seeded 16th, Morgenfeld ran to a ninth-place finish (10:02.24) and

significantly outperformed the seeding to move to seventh on the all-time list. Classmate Molly Crotteau made her third appearance in the event and ran a strategic race amongst a 14-woman field.

The sprinting events offered several rounds of inspiring personal-best races. Junior Vaibhav Anand shaved six-tenths of a second off his previous best time in the 100m dash (13.06) and scored a new personal best in the 200m dash by nearly one full second (26.69). The strongest sprinting performance on the men's side came when senior Alexander Bourzutschky ended his career by breaking his previous personal best 200m time set back in his 2015 freshman campaign. The senior's 23.80 edged his previous time by just over a tenth of a second and marked the best time of Caltech men in the event. Freshman Maquelle Tiffany represented the Beavers in the women's 100 and 200 and nearly matched her previous best in the 100m dash. The 800m race nearly saw freshman Michael Brown qualify for the finals, as his 1:58.46 positioned him in 11th out of 32 participants with the top nine advancing to Saturday. The trio of freshman Krystal Brodsky, junior Michelle Marasigan and freshman Noelle Davis found themselves in a similar boat, finishing in 11th, 12th and 13th consecutively, all within one second of one another in the women's 800. Davis' time (2:28.93) is a new PR and positions her 10th on the women's 800 top-10 list, the fourth member of the current team to make the list.

Senior Zane Murphy got off on the right foot in his final meet by setting a new personal best in the hammer throw (33.59). On the women's side, sophomore Alexa Lauinger came within half-a-meter away from improving in the discus, but earned a new season best in the shot put (9.03). In another field event, sophomore Alex Lettenberger cleared 10 feet in the pole vault and came four inches away from his current

The men's and women's 10000m run capped off the day and featured junior Michael Hashe and sophomore Skye Reese. Reese fought through cramping to finish just seconds off her career best and earn a strong ninth-place finish.

Ganapathi named to Sportsmanship Team



Beware the snarl of the mighty Devi!

-gocaltech.com

GOCALTECH.COM Actual Sports Content Editor

LAGUNA NIGUEL, Calif. (Apr. 26, 2018) - Senior Devi Ganapathi of the Caltech women's water polo team has been nominated as the Beavers' representative on the SCIAC All-Sportsmanship Team.

Ganapathi, the team's only senior, contributed one goal and four assists to the team this year and finished fourth on the team with eight steals while adding a key field block in the Beavers' final game. Ganapathi follows former seniors Sasha Zemsky '17 and Soumya Kannan '16 as players to earn the honor under Head Coach Jon Bonafede.

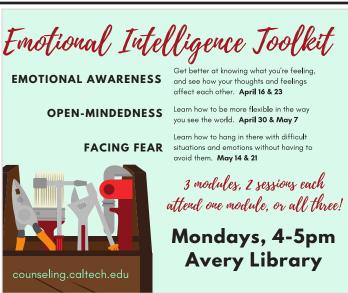
THE CALIFORNIA TECH

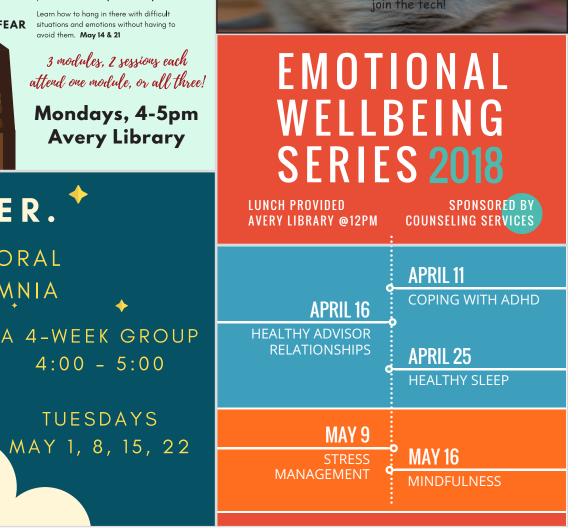
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PUZZLES

Mathdoku (KenKen®)

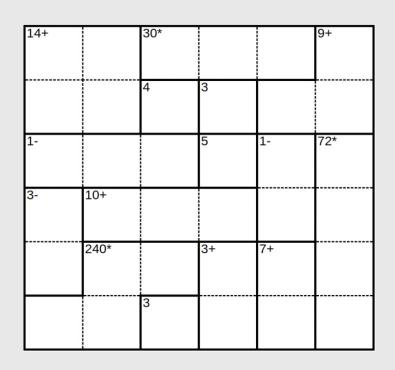
How to play Mathdoku (KenKen®):

This time we're upping the number of squares to a 6x6!!

- 1. Each box contains an integer from one to six.
- 2. Every row and column must contain exactly one of each integer.
- 3. The integers inside each cage (enclosed by bolded lines) must give the target number when combined with the operation shown.
- 4. Single box cages have no operation and just give the integer inside the cage.

Puzzles from Caleb Sander. His computer just happens to churn them out!

3	12*		11+		9+
15+			9+		
11+				48*	
		12*		5+	
5*	2		12*		15*
	24*				
I	l .				



Diagramless Crossword

The diagramless crossword is similar to a standard US style crossword except in this puzzle there are five main differences:

- 1. You start with an empty 17x17 grid and are required to block out the unused cells yourself.
- 2. The clue numbers in the upper left corners are not filled in, so you have to figure out which cells are the correct ones and write in the clue numbers in small print.
- 3. The word lengths are not given, but all are at least three letters long.
- 4. The completed grid will form a pattern with rotational symmetry.
- $5. \hspace{0.5cm} \mbox{Every white cell forms part of an Across and a Down answer.}$

I think everything is perfectly in order this time...

46. Top of a hill

12. Small island

18. Depression

20. Gumbo

21. Pine

22. Crone

13. Small wooded hollow

19. The sheltered side

23. Historic period

24. Adversary

25. Requirement

28. The night before

49. Beast

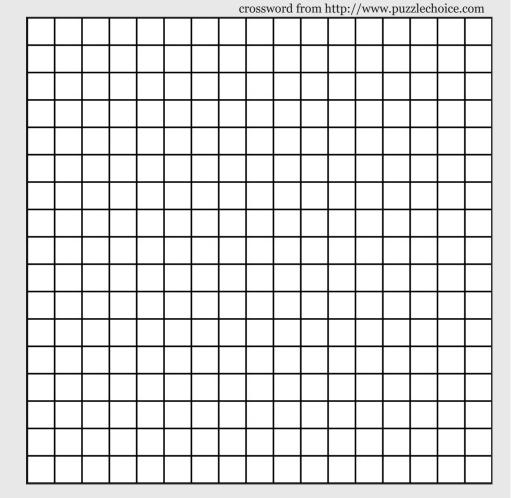
50. Thus 51. Regenerate 1. Vegetable, sounds 52. Upper part of a foreand-aft rig Scandinavian 6. Edible decapod 54. Depart 55. Terminus crustacean 7. Dissent 9. Divide **Down** 1. Dash 11. Shocking and graphic 2. Communicated in 14. Dried plum writing 15. Charter 3. Consume 16. Misplaced 4. Reside 5. Result 17. Unwell 7. Arithmetic operation 18. Half a dozen 8. Sports coaches 19. Solitary 22. Idyllically calm and 9. Join together peaceful 10. Person acting on 26. ____ out behalf of 27. Snakelike fish another

Hint: 1 Across starts at

Row 1, Column 7

others
32. Attempt
34. Large migratory
shorebird
38. Matching set of
furniture
40. Curved structure
41. Uncommon
44. Determined in
advance
45. Female relative
47. Berate
48. Conical tent
49. Cry of approval
53. Chart

29. Was ahead of the



43. Operated 44. Bucket

30. Chills and fever

33. Make a mistake

35. Precious stone

37. Showing confidence

31. Domestic companion

34. Cavern

36. For each

39. Lampoon

42. Large vase



On The Moral Necessity of Inducing Pain Asymbolia Via Traumatic Head Injury

By People for the Ethical Treatment of People (Except Everyone Valuing Ethics in Science)

First, an excerpt from Damage Report, by Hannah "Alicorn" Blume:

"They were gaping open-mouthed at the screen, which minutes earlier had told them that people - people who had felt pain just like that that - had wanted it. Had wished it on other people. Had, knowing as they must have that they might eventually need surgery themselves, chosen to guarantee that in such a case they'd experience that."

Pain is useful as an indicator of 'damage', no one will dispute that. Probs still not worth, for:

maXXXimum utility

Imagine, for a moment, that you were held captive by a deranged and profoundly lazy supervillain, who, instead of giving you orders in a conventional way, simply took away all your serotonin whenever you did anything they didn't like. Presumably you would like the police to resolve the situation. If you're sufficiently well connected, you might even have a reasonable expectation that they would. And it's also no doubt reasonable that you would be willing to tolerate some minor inconveniences in the process-bruised and battered freedom, after all, is the usual condition of rescued hostages.

With only a few exceptions, each and every one of us is in exactly this situation- and that supervillain's name? Biology. Those lucky few who have, through various encounters absent from the ancestral environment, escaped from the curse of being a very poorly designed reinforcement learner are graced with a condition known as pain asymbolia- they are perfectly capable of identifying pain, but lack any of the usual negative valence. And just as there is a clear moral obligation to rescue hostages, or to make provisions for a state capable of doing so, it is our absolute and indisputable duty to ensure that as many fellow sufferers as possible join the ranks of the pain-asymbolic. All that is necessary is that we create a few small lesions on the insular cortex of every mammal alive.

No doubt this will have side effects, and the usual legions of hidebound reactionaries will claim that the cost is far too high to pay. But consider- monks throughout history have taken vows of silence, suffered alone in the cold, and lain down their lives in pursuit of freedom from suffering. If these experienced authorities are to be trusted- and the whole scientific project is founded upon the belief that experience is the ultimate authority- then it is clear that the mere occasional occurrence of aphasia and disruption of homeostasis is nothing in the face of the most basic of goals: freedom from pain.

Answers to Puzzles and Crossword: http://bit.ly/2FsXbjL

Peel back the veils of perception, and you will find that we are not the sort of creatures you might expect. In the final analysis, there is no soul, no virtue- not even an automaton marching along in mechanical harmony.

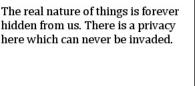
We catch an occasional glimpse, an enticing hint. But in the end, we have only environment and response.



It is only by changing the environment that we can change behavior- the essential dispositions of a system are beyond our grasp.

There is only Schrodinger, dancing away.

> So don't complain about the cameras. They're only common





We are always accepting submissions for comics, and will pay you.

The California Tech

Editors-in-Chief Sophie Piao Amrita Rhoads Milan Roberson Daniel Xu

Page Editors Reggy Granovskiy Ciara Ordner

Circulation Manager Mason MacDougall

> Advisor Richard Kipling

Caltech 40-58, Pasadena, CA 91125

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The advertising deadline is 5 p.m. Friday; all advertising should be submitted electronically or as cameraready art, but The Tech can also do simple typesetting and arrangement. All advertising inquiries should be directed to the business manager at tech@caltech.edu.

Letters from the Editors-in-Chief

Sophie Piao: as soon as i started thinking of this section like, 'you can tweet but it gets printed in a newspaper, and you can only do it 30 times,' it got a lot harder to decide what to write, even though it really doesn't matter at all :thinking:

Amrita Rhoads: zzzzzzzzzzz ZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZ ZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZ ZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZ Milan Roberson: Apparently I can only write when the deadline is about eight hours away, so anyway I'm sorry Sophie, Amrita, and especially Reggy who hasn't even taken a nap yet.

ZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZ ZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZ

ZZZZZZZZZZZZZZZZZZZZ

This week's recommended Tech usage house rocks.

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