



The California Tech

VOLUME CXIX NUMBER 27

PASADENA, CALIFORNIA

TECH@CALTECH.EDU

MAY 9, 2016

Michael M. Watkins named next JPL director

CALTECH MEDIA
RELATIONS

This article was originally published online at caltech.edu.

Michael M. Watkins, the Clare Cockrell Williams Centennial Chair in Aerospace Engineering and director of the Center for Space Research at The University of Texas at Austin, has been appointed director of the Jet Propulsion Laboratory and vice president at Caltech, the Institute announced May 9.

Watkins will formally assume his position on July 1. He succeeds Charles Elachi, who will retire as of June 30 and move to the Caltech faculty.

Watkins is an internationally recognized scientist and engineer. Prior to assuming his current position at The University of Texas in 2015, he worked at JPL for 22 years, where he held leadership roles on some of NASA's highest-profile missions. Watkins served as mission manager and mission system manager for the Mars Science Laboratory Curiosity Rover; led review or development teams for several missions including the Cassini, Mars Odyssey

and Deep Impact probes; and was the project scientist leading science development for the GRAIL moon-mapping satellites, the GRACE Earth science mission, and the GRACE Follow-On mission, scheduled for launch in 2017. He last served at JPL as manager of the Science Division and chief scientist for the Engineering and Science Directorate.

"Michael's record of successful mission leadership and impressive management skills quickly distinguished him as a leading candidate for this position," said Caltech president Thomas F. Rosenbaum, the Sonja and William Davidow Presidential Chair and professor of physics. "As JPL director, Michael will build upon the laboratory's outstanding achievements in planetary exploration and earth science, strengthening the connections between Caltech's campuses and partnering with NASA to deliver highly complex and nuanced missions."

"I've known Mike Watkins for more than 20 years now," Elachi said. "Mike has played important and varying roles in a number of important JPL areas. His intimate knowledge of the lab and staff,

combined with his highly diversified set of skills and knowledge base in science and engineering, will serve JPL very well in the years to come."

A committee composed of Caltech trustees, faculty, senior administrative leaders and a member of the JPL executive council conducted an extensive search and recommended Watkins to Caltech's president.

Watkins holds a bachelor's degree, master's degree, and Ph.D. in aerospace engineering from The University of Texas at Austin. He has published broadly in both engineering and science, contributed more than 100 conference presentations and served on the boards of numerous international scientific and engineering societies.

"JPL has such a talented and deeply committed staff," said Watkins. "It is a privilege to have this opportunity to lead the laboratory to even greater discoveries. I look forward to working with my colleagues on campus and across NASA to forge new directions in space exploration and earth science."



-<http://www.caltech.edu/>

News briefs from around the globe

A brief list of events from the past week, compiled by the editors

Captain America: Civil War has fifth largest opening weekend ever

\$181.1 million earned in North America is among most ever in one weekend, but is still less than the \$200 million estimate from critics [[TIME](#)]

London elects first Muslim mayor

57 percent of vote goes to Sadiq Khan of the Labour Party, who beat Zac Goldsmith of the Republican Party [[TIME](#)]

Week-long fire in Canada still burning, thousands evacuated

20 percent of homes in Fort McMurray have been destroyed [[BBC](#)]

Norovirus hits British cruise ship

200 reported ill after ship docked in Portland, Maine, last month [[CNN](#)]

Kenyan government to close all refugee camps, displacing many

600 people currently living in camps will be displaced; most have nowhere to go [[CNN](#)]

World Fest: Mellon Mays Fellow Halston Lim shares powerful experience in learning about social inequality in South Africa

NEERA SHAH
Page Editor

As part of last week's World Fest, held by the International Offices and the Caltech Y, junior physics major Halston Lim gave a talk on his trip to Cape Town, South Africa. Lim traveled there for a conference for Mellon Mays Undergraduate Fellows around the world. He is one of 11 fellows at Caltech and was the only one to travel to the conference, where he met with 48 other fellows. During his presentation, Lim shared not only what he learned about early modern South African history but also a personal account of his trip.

Under Apartheid, the government labeled people as black, colored/mixed, or white as a way to assign political rights to people. Tribal people were categorized as black and had the lowest priority,

while those who had some white ancestry were classified as colored/mixed and had more rights than blacks but fewer than whites. This classification system is present today.

At the conference, Lim heard talks from professors and researchers who are studying social inequality in South Africa. Apartheid rule ended in South Africa more than 20 years ago, but many of the inequalities still persist today. Lim also traveled with the fellows through Cape Town and surrounding areas in order to understand how inequality is still manifest in daily life across South Africa.

One of the most prominent geographic features in the area is Table Mountain, which also holds historic importance for the native Khoisan tribes. When the Dutch first arrived in Cape Town, they

Continued on page 7

IN THIS ISSUE

OPINION | PAGE 3
KATHERINE ATTEMPTS TO MAKE MAGIC

FEATURE | PAGE 4
CALTECH Y, INTERNATIONAL OFFICES HOST WORLD FEST

SPORTS | PAGE 5
BURLESON TIES PROGRAM RECORD IN SEASON FINALE

FEATURE | PAGE 7
LIM TALKS ABOUT SOUTH AFRICA AND PERSPECTIVE

Caltech Y Column

CALTECH Y

The Caltech Y Column serves to inform students of upcoming events and volunteer opportunities. The list is compiled by Neera Shah from information given by the Caltech Y and its student leaders.

Founded by students in 1916, the Y was organized to provide extracurricular activities planned and implemented by students as an opportunity to learn leadership skills and discover themselves. The mission of today's Y remains the same—to provide opportunities that will prepare students to become engaged, responsible citizens of the world. The Y seeks to broaden students' worldviews, raise social, ethical, and cultural awareness through teamwork, community engagement, activism, and leadership. More information about the Caltech Y and its programs can be found at <https://caltechy.org>. The office is located at 505 S. Wilson Avenue.

Ongoing and past programs hosted by the Caltech Y:

Alternative Spring Breaks: Costa Rica, New York, Yosemite, San Diego, San Francisco

Make-A-Difference Day: Hillsides Home for Children, LA County Arboretum and Botanic Garden, Children's Hospital Los Angeles (Coachart), Eaton Canyon, Lifeline for Pets

Explore LA: Lakers game, Next to Normal musical, Norton Simon Museum trip

RISE Tutoring program (an afterschool math and science-focused tutoring program that serves public school students between grades 8 and 12)

Upcoming Events

1. Caltech Y Photo Contest

Deadline to Submit Photos: Wednesday, May 11th

Want to win \$100? Enter the Caltech Y Photo Contest!

For our centennial year, the Caltech Y will be holding our first ever Photo Contest. If you have participated in a Caltech Y program and are a current student, submit your photos for a chance to win. We're giving a \$100 prize to the winner of each of the five photo contest categories.

The 5 categories come from the Caltech Y pillars: Perspective, Adventure, Service, Civic Engagement, and Leadership.

Photos should demonstrate the pillar in action. Photos of people are preferred, but exceptional scenic pictures will also be accepted. The deadline to submit photos is Wednesday, May 11th.

After the deadline, we select the finalists, upload them to our Facebook page, and our fans vote for their favorites to determine the winners. Winners will be announced on June 1st.

For more info on how to enter visit: http://caltechy.org/photo_contest/

2. Caltech Y India Cultural Trip - Applications Available Now

December 10 - 20, 2016 | Cost: \$950 | Applications Due Thursday, May 12th

The Caltech Y, in partnership with the SURF Program and IIT Gandhinagar (IITGN) in India, is coordinating a trip to Ahmedabad, India. Join us for an exciting trip as we explore India as an emerging nation and its potential role as a global leader in the context of its history and culture. The Caltech group will be hosted by IITGN and discussions and trips will be led by IITGN faculty.

The trip is open to undergraduate students only. Applications can be found at http://caltechy.org/programs_services/areas/

India/index.php and are due by Thursday, May 12th. Questions may be directed to caltechy@caltech.edu. Space is limited.

3. Hillsides Home Volunteer Opportunity

Saturday | May 14th | 9:00 a.m. - 1:00 p.m. | 940 Avenue 64, Pasadena, CA

Build and race balloon cars with kids at Hillsides Home. Food and materials are provided. Hillsides Home provides a safe and stable environment for children and youth who cannot live at home and have suffered trauma and challenges; it also provides educational and programs for children. For more info and to RSVP email Kristie Yu at kbyu@caltech.edu.

4a. Pasadena LEARNS

Friday | 3:00 - 5:00 p.m. | Madison, Jackson, and McKinley Elementary School

Come volunteer at Madison, Jackson, and McKinley Elementary School! We are partnered with the Pasadena LEARNS program and work with their Science Olympiad team or do regular tutoring along with occasional hands-on science experiments. Transportation is provided. For more information and to RSVP, contact Vansh Kumar.

4b. Hathaway Sycamores

Wednesdays | 5:30-8:00 p.m. | Highland Park

Volunteer at Hathaway-Sycamores, a group that supports local underprivileged students. There is a variety of ages and subjects being tutored. The service trip includes about an hour of travel time and 1.5 hours of tutoring. Transportation is included. For more info and to RSVP email Sherwood Richers at srichers@tapir.caltech.edu.

Other Announcements - Beyond the Caltech Y

Caltech Y Social Activism Speaker Series: A Perspective on Women in Science with Prof. Nai Chang Yeh

Tuesday, May 10th | Noon - 1:00 p.m. | Avery Library

The Caltech Y Social Activism Speakers Series Committee (SASS) is hosting a talk with Professor Nai-Chang Yeh, the first female faculty in physics here at Caltech, on May 10th from noon to 1 p.m. in the Avery Library. Professor Yeh will be leading a talk and discussion regarding the pathway she took to become the first woman faculty of physics at Caltech and her thoughts and opinion about women in STEM. She will also touch on what policies she thinks could help from a university and government standpoint to encourage more women to pursue STEM. If you're interested in participating in this talk and discussion, please RSVP at <http://goo.gl/forms/2KDvhMtwyd>.

Learning Works (Tutors Needed)

June 1 - June 16, including senior push days (June 6 and 13)

Learning Works Charter School in Pasadena is looking for volunteers to serve as tutors to help seniors complete schoolwork and graduate on time. Learning Works specializes in re-engaging students who have dropped out, as well as others the regular school system has left behind. Tutors are especially needed in the subjects of high-level math and science.

Students will be working diligently June 1-16, beginning at 9 a.m., to as late as midnight, to complete their required coursework. Learning Works is looking for volunteers to sign up for two- or four-hour shifts during that time frame, weekends included. Please lend your expertise to help graduate as many students as possible. Email Jane Stockly at fcp.birthdayclub@gmail.com to volunteer.

Lend your expertise to help graduate as many students as possible. Email Jane Stockly at fcp.birthdayclub@gmail.com to volunteer.

Dishes from around the world shared at International Food Fair



Students bring French and Indian dishes to the International Food Fair.

Photos Courtesy of Gloria Ha

Caltechlive!

WEDNESDAY, MAY 11, 2016 • 8 p.m.

EARNEST C. WATSON LECTURE SERIES

SIGNED, SEALED, DELIVERED: HOW PROTEINS GET WHERE THEY'RE SUPPOSED TO GO IN CELLS



Miller's presentation will focus on his lab's efforts to computationally simulate the protein translocation process and to predict ways of controlling the targeting and delivery of proteins for therapeutic or biotechnological applications.

Tom Miller, Professor of Chemistry

Free Admission

Caltech's Beckman Auditorium

www.events.caltech.edu



Call campus x 4652 for information

Republicans don't like Trump, and you shouldn't either

SEAN MCKENNA
Contributing Writer

From time to time, a little voice in the back of my head (maybe it's the optimist inside of me?) pipes up and says, "Donald Trump can't be all that bad! He ran companies and made money, so he must be at least somewhat functional." However, we should be able to judge him on something other than this base instinct. Most of us still believe that we live in a functioning democracy that truly provides freedom of speech. Thus, in rational public discourse we can usually assume that candidates are speaking from the heart, unmotivated by special interests or censorship. Under this assumption, Trump has not given me reason to think any other positive thoughts about him. It's a travesty for the Republican Party and America that Trump is the GOP's presumptive nominee.

Shockingly, even Jeb Bush agrees with me. He posted on his Facebook page on May 6 that he refuses to vote for Trump because he "has not demonstrated [presidential] temperament or strength of character." Bush doesn't go so far as to criticize the exact statements that Trump has made, but I will do so here. If you ever imagine yourself voting for Trump, remember the following facts:

He advocated "going after the families" of terrorists, military action that violates the Geneva Conventions on international war crimes.

He speculated that a female debate moderator's tough line of questioning was due to menstruation.

At his campaign kickoff speech on June 15, 2015, he accused

Mexican-American immigrants of being, for the most part, drug smugglers, rapists and criminals.

He proposed a ban on Muslims entering the country, clearly violating the norms of religious freedom that have been common since the colonial era.

Even Paul Ryan, a staunch conservative in his own right, told CNN this week that he can't support Trump just yet because he still has some work to do tweaking his conservative image.

Make no mistake, Trump's positions cannot simply be adjusted in order to become acceptable. None of the above facts can be fixed by anything other than a complete retraction or apology. Each is egregious enough in its own right to disqualify Trump from the presidency. We judge people by what they say in America because we know that they are speaking from the heart. Trump's heart doesn't seem to contain any semblance of poise, civility or tolerance.

Support for Trump is rife with hypocrisy. Trump and his supporters got to where they are today because of the tolerance and freedom America bestowed to all immigrants and businesspeople. This is what made America great. Trump's policies represent a complete 180 from American norms of the past two centuries. He thinks America can be made great again by turning it into an exclusive club preserving a single set of values and economic norms, but American progress has always been dynamic. The path to a brighter future has always been marked by economic openness and tolerance. Never bigotry. Never misogyny. Never violence. Never Trump.

a lot of screwed up milk tea and (on a separate note) a lot of sad nights.

So let's get into it, and I'll stick to places close by.

Ten Ren's Tea Time/Tea Station

These are really separate places, and they're all over (from Alhambra to Arcadia to San Gabriel), but I'll group them together because I believe they both brew tea from Ten Ren tea company. Ten Ren has always maintained a good standard for black milk tea, but I'd stay away from its more artificial fruity flavors. The drinks are normally too sweet (as with many of the places on this list), so I recommend 50 percent sugar or less. Either way, the two places have a similar vibe: completely casual, and you'll find people either working or talking with friends. This chain is on the louder side but is usually open late.

Bon Appetea

I haven't heard many Techers mention Bon Appetea in Alhambra,

Katherine attempts to make magic

KATHERINE GUO
Editor-in-Chief

While frittering my life away looking at food on the internet, I saw a recipe titled "Magic Cake." I immediately dismissed it as an exaggeration, but later, I thought back to it and the question of how it was magical nagged at me until I searched it up again. The pictures were captivating—a two-layer cake, custard on the bottom and cake on the top, somehow made from a single batter. I read a few recipes and variations on it to see if any bakers had explained the magic of how a batter separated into cake and custard layers while baking, but the mechanics of it all was simply brushed over with "magic"—contrary to how exacting baking usually seems to be.

My childlike belief in baking magically working stems from multiple attempts to make microwave brownies in a mug as a young child unable to operate an oven. I've tried this at different ages in my adolescence at least three to four times, and not once has it ever come out edible—the end result was always shamefully scraping failed chocolate rubble out of a mug, coupled with the sadness of not having a brownie. If anyone has successfully made a microwave brownie in a mug, I graciously request that you email me with a recipe and proof, or you personally come to my house and make it in front of me.

Anyway, here I am, years later, hoping again that a recipe could work despite my complete lack of

understanding how the ingredients would mix together and bake into a two-layered cake. I used a recipe for a chocolate variation of magic cake here: <http://whiteonricecouple.com/recipes/chocolate-magic-custard-cake/>. Reading about how silky the custard would be and how easy it was to make, I felt relatively optimistic about the endeavor. However, I knew that I had no access to a stand mixer, but I also ridiculously believed in my ability



Yes, they look like brownies, but I promise the texture is even more perplexing.

Photo Courtesy of Katherine Guo

to whip cream from egg whites by hand.

As I proceeded with the instructions, I began to dread the task of whipping the egg whites. If you have ever used a stand mixer to do this, it feels trivial since you're sitting back and letting the machine beat the egg whites into fluffy submission for a few minutes. However, you can't really appreciate how much better off that is until you stand for almost an hour wildly shaking around a fork in foamy egg whites like it owes you money. It was a great workout, but ultimately I settled for bubbly egg white liquid. I also completely forgot about adding the milk until the end. I assumed that would be fine, but my baking friends tell me that the order of adding ingredients does indeed matter.

"Is this fudge?", "What is this?" and "Hmmmm."

All in all, the cake tasted pretty decent. It did not feel at all like a cake. The mouthfeel, anyway. (Does that apply to baked goods or is that just a beer thing?) It also really only had one homogenous custardy-cake hybrid layer. To my credit, if you look at the picture in the recipe, it does resemble my creation, in the way that wolves resemble the products of inbreeding that we walk on leashes. (OK, seriously, have you ever looked at a pug and listened to it struggle to breathe through the tiny nostrils we selected for? Why is this okay?)

If anyone is willing to try this recipe (or mug brownies) and share your results, feel free to email me at kguo@caltech.edu.

Cafe recommendations around Pasadena: Boba edition

KSHITIJ GROVER
Contributing Writer

All right, let's admit it—no matter how fancy a cafe is or how freshly brewed the tea is, nothing tops SoCal boba (well, besides Bay Area "PMT," or pearl milk tea, but that's an argument I'll win another time ...). I imagine all Caltech students have tried their share of milk tea—memories of Avery PFW should come to mind—but where do you go for the real stuff?

What's good boba, anyway?

In short, boba is like pizza. It's either amazing, pretty good or from Chouse. Jokes aside, good boba isn't easy to come by, so I don't blame Chouse: you don't want the artificial flavor sticking to your palate (although most places don't brew real tea for these orders anymore, some still do!), you don't want too much milk or water and, most important, the texture of the tapioca has to be just right. I've had

but I'd say their actual milk tea drink is the best. The milk is on the richer side, and I especially enjoy the hokkaido milk tea, which is extremely smooth. Some might say the milk flavor masks the strength of the tea here, but I prefer the creaminess. Most importantly, you'll get a great photo op out of the mason jars! If I were to nitpick, Bon Appetea can get noisy sometimes with high schoolers, so watch out if you're going there to avoid a crowd!

Home Brewed Bar

"Welcome home!" If you can get past how awkward that greeting might be, I think you'll enjoy Home Brewed Bar. The flavors here are on point, so make sure to try one or a mix—I usually stick to the basic pearl milk tea, but it's worth deviating from classics here! I can personally recommend the coconut, matcha and jasmine. The tea flavor itself is a bit less pronounced, but the house milk (which I believe is non-dairy) is pretty amazing.

Though I love the vibe of the place (i.e., dimly lit with some intricate light bulbs), it caught me off guard for a boba place.

Half & Half

Ah, yes, the boba of choice for many Techers. I don't have much to say for Half & Half—the milk tea itself is undoubtedly above average, though a little watery. I'm not a big fan of the actual tapioca balls at Half & Half, so try out the pudding next time you go! Half & Half is one of the few places that uses crushed ice—definitely giving the drink a different feel—so that might seal the deal for you!

Factory Tea Bar

First things first: I love Factory Tea Bar's vibe! The low group seating and couches really make the cafe stand out; if you want to relax after finishing a CS 124 set (perhaps the most unrealistic of scenarios), go straight here. In my experience, Factory Tea Bar has dependable tea with slightly more

caffeine than the other places. The flavored drinks are artificial, but I appreciate that the basic black milk tea with boba isn't too sweet. I've heard some great things about the Nom Nom Milk!

Honorable Mentions

Whether it's because I haven't had enough or I just don't have a solid opinion, I didn't mention some local places. Here are some I like nevertheless: Café 86 (Old Pas), Bird Pick Tea & Herb (great, but better for no-boba brewed tea), Urth Caffé (as mentioned in my last article), Jin Tea Shop (tried it once, a bit expensive) and It's Boba Time (amazing name).

There we are! At the end of the day, just remember that you can't go wrong with boba—even if a recent article suggested that you're ingesting a healthy dose of recycled tires (eek!). Oh, and by the way, feel free to reach out if you have a car and are thinking of making a trip.

FEATURE

4

MAY 9, 2016

THE CALIFORNIA TECH

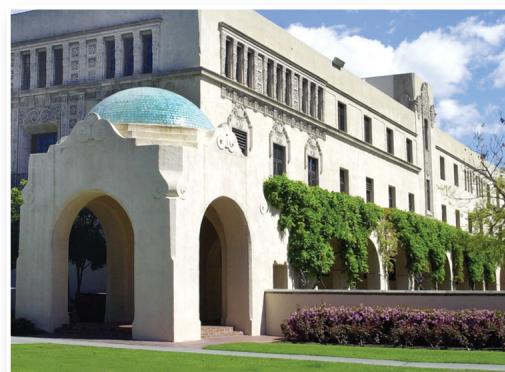
Caltech community experiences foreign cuisine at International Food Fair



The International Food Fair on May 4 was part of the World Fest put on by the International Offices and Caltech Y during the week of May 2.

Photos Courtesy of Gloria Ha

You chose one of the
most trusted institutions
in SCIENCE.



Now choose one of the
most trusted institutions
in FINANCE.



When you want unsurpassed stability, integrity and value for your money, Caltech Employees Federal Credit Union offers an honest alternative. There are no gimmicks. No annual fees. No harsh penalties.

Just some of the lowest lending rates and highest savings rates in the nation...and a state-of-the-art eBranch for easy, convenient online and/or mobile access to your account. We're the overwhelming choice for financial services among the entire Caltech family. If you haven't yet joined, call or visit us online or in person today. You belong here.



62 Smarter 16 Solutions. 59 Proven 75 Results.

Campus Office 515 S.Wilson Ave. (physical address) • Campus ATMs Winnett Center & Keith Spalding Building
626/395-6300 • 800/592-3328 • www.cefcu.org

Must qualify for CEFCU membership to join. Minimum \$5 deposit and one-time \$5 membership fee due upon opening any CEFCU account. Federally insured by NCUA.

Hill places third, earns All-SCIAC honors at Championships

GOCALTECH.COM

Actual Sports Content Editor

LOS ANGELES (Apr. 30, 2016)

– Senior Morgan Hill continued a truly amazing senior year as he earned All-SCIAC honors with a third-place finish in the hammer throw to kick off a successful SCIAC Championships for Caltech track & field on Friday and Saturday.

Having broken an 81-year-old program record at his last meet just two weeks prior, Hill further solidified his status with an all-time clutch performance, overcoming three fouls and a disappointing first legal throw to vault from eighth place after the qualifying round straight into third in the finals. The senior also recorded a personal best in the shot put with an effort of 34'2.25".

"Morgan's improvements have been impressive, but his accomplishments are an extension of his evolved mindset this year," Head Coach Ben Raphelson said. "He has taken a positive, resilient mindset into nearly every practice and competition this year. On

Friday, he had to navigate a back-and-forth competition to produce when it mattered most. That, even more than the podium finish, is what stands out for me."

Junior Lucy Chen was a perfect three-for-three in recording personal-best in each of her events. After cracking her second career program top-10 list two weeks prior, she moved up three spots in the long jump to tie for the seventh-best mark in program history at 14'11.5" inches while also adding two inches in the triple jump (32'2") and shaving .07 in the 100-meter dash (14.56).

Senior Edward Garza recorded the fastest 100m time by a Caltech sprinter since 2011, beating even his significantly wind-aided

personal best with an 11.32, which placed him 13th and just .19 behind the qualifying time for finals. He also placed 12th in the 200m with a 22.87, which blew away his previous non-wind-aided time by .57 and came within half a second

second to post the best Caltech time since 2013 (46.33).

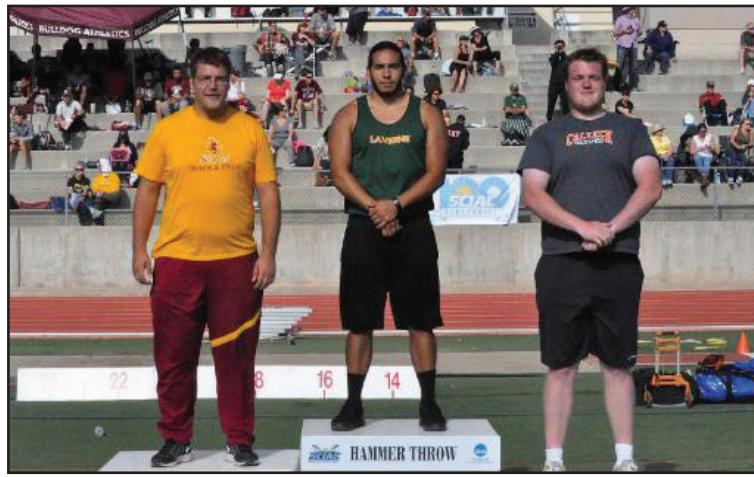
The distance core of sophomore Michael Hashe and freshmen Rohan Choudhury and Joey Hong all performed well in a chaotic 59-man race, with Choudhury placing

higher than his seed with a slight time drop while Hashe chopped off more than 45 seconds (17:53.79) and Hong trimmed almost nine (16:52.54). In the 1500m, junior Lilly Luo cut off 14 seconds to clock a 5:35.37 while freshman Rohan Doshi came within

All three 400m runners trimmed significant time as well, with Bourzutschky also bettering his career-best time as a rookie with a 53.31. Yei crossed in 56.79 and junior Teddy Hu ran a career-best 62.23.

Other highlights included senior Anup Kishore competing in the pole vault, triple jump and javelin in his final SCIAC Championships, as well as freshman Michelle Marasigan returning to action with a competitive effort as she continues to recover from injury and freshman Muskaan Goyal recording her second-best discus throw of her rookie season on the big stage.

"The SCIAC is a competitive, deep conference," Raphelson said. "It pushes our scholar-athletes to strive for more and to be at their absolute best when it matters most. I feel our team fed off that and really thrived this past weekend. It was a positive group that was very focused on delivering their best efforts and supporting their teammates to do the same."



I find great joy in the fact that they are all the same height on the steps. It's as if the universe is saying, "You are all winners."

-http://gocaltech.com

Burleson ties program record in season finale

GOCALTECH.COM

Actual Sports Content Editor

PASADENA, Calif. (May 3, 2016) – Freshman Mark Burleson tied the Caltech baseball single-season program record for doubles as the Beavers concluded the 2016 season in SCIAC Pool Play against No. 23 Cal Lutheran University on Wednesday, No. 8 Occidental College on Sunday and Whittier College on Tuesday.

Burleson tied the 27-year-old mark shared by Ken Campman and Hall of Honor inductee Jim Hamrick in his penultimate at-bat of the season against on Tuesday.

Caltech 1, No. 23

Cal Lutheran 11

With a busy slate scheduled, Head Coach Matt Mark elected to get a number of his pitchers some work, which led to six different Beavers toeing the rubber. Freshman Jonah Krop retired the side in his only inning of work to start the game before the Kingsmen scored two in the second on a bases-loaded single and error. CLU tacked on two more in the third, but junior Kai Kirk made it through the fourth inning unscathed and then broke up the perfect game with a leadoff walk in the bottom of the frame.

CLU's bats exploded in the fifth as an errant throw extended the inning, allowing three runs to score. Another crossed the plate in the sixth and two more scored in the seventh to shorten the game, although Caltech did manage to plate one in the bottom of the seventh and nearly keep the game

going. Freshman Tucker Reese, who had come onto the field as a defensive replacement in the top of the frame, smashed a double to left-center to bring home freshman Connor Moffatt and advance sophomore Garrett Levine to third, but a strikeout and fly out ended

with two walks and Levine 1-for-3 with the RBI.

Caltech 3, Whittier 8

With Kirk on the mound for the finale game of the season, the Beavers knew they would have several chances to pull ahead. Although a pair of baserunners were erased on an inning-ending pickoff in the first, Kirk had made an incredible play in the top of the inning to erase a Whittier runner, snagging a sharp line drive and flipping to first for the double play. The Poets would score twice in the second following a leadoff single and ground-rule double, but Kirk did well to limit the damage as the runs only scored via a wild pitch and sacrifice fly.

Caltech responded immediately as junior Harrison Jacobs slapped a two-out RBI single up the middle. Both pitchers overcame one-out singles in the third inning before Whittier plated two more in the fourth after a throw over the first baseman's head extended the frame. Once again, a pair of runners were stranded on first and second in the bottom of the fourth and Whittier took advantage of the Beavers' untimely hitting with a four-run outburst in the sixth. Junior Jared Reed got one back for Caltech on an RBI single through the left side to score Burleson after the rookie's historic leadoff double and the Reese brought home senior Daniel Chou in the bottom of the ninth, but a lineout double play left ended the game with the bases loaded as Caltech's rally fell short.



"Let me root, root, root, for the home team. If they don't win it's a shame..."

Photo Courtesy of Charlie Magovern

the game.

Caltech 1, No. 8 Occidental

The Tigers jumped out to an early lead on a two-run homer by the nation's second-leading home run hitter, Devon DeRaad. The junior smacked another in the third to sandwich a solo shot by a fellow Tiger in the second and a three-run fourth inning put the hosts up 8-0. The Beavers finally got on the board in the top of the sixth inning on a sacrifice fly by Levine to score Kirk, who had led off with a walk, stolen second base and advanced to third on a balk. Another two-run shot in the seventh put the Tigers within one run of cutting the game short, which they did on a two-out walkoff single in the eighth.

Sophomore Tim Menninger was a perfect 2-for-2 with a walk in the game, while Moffatt was 1-for-2

Spirited rally falls just short for women's tennis

GOCALTECH.COM

Actual Sports Content Editor

CLAREMONT, Calif. (Apr. 30, 2016) – A spirited rally in singles fell just short for Caltech women's tennis against West No. 12 University of La Verne on Saturday, less than 24 hours after the Beavers had faced national No. 3 Pomona-Pitzer Colleges.

Caltech finishes the regular season at 7-9 overall and in sixth place at 2-5 in the SCIAC, earning the Beavers the #7 seed in this weekend's SCIAC Championships.

Caltech 0, Pomona-Pitzer 9

Pomona-Pitzer did not drop a game at either #2 or #3 doubles, but junior Sophia Chen and sophomore Vinci Chen managed to take two games against the Sagehens' West No. 1 doubles team. The hosts went on to sweep all six singles courts, although freshman Julia Reisler made a match of it at #2, going down 6-3, 6-3. Freshman Kana Moriyama, sophomore Erin Wang and freshman Cecilia Andrews each won two games at #3, #5 and #6, respectively.



Love means nothing to a tennis player.

Photo Courtesy of Michael L. Wong

scores, with La Verne narrowly pulling out #2 doubles, 8-6.

La Verne soon stretched the match lead to two at 3-1 with a victory at #1 and pulled within a point of clinching the match with another win at

#6, but the rally was already well underway at that point. Moments later, Moriyama claimed #3 singles (6-4, 6-0) and was followed shortly by Wang in a 6-3, 6-2 decision at #5. Meanwhile, Reisler had begun to tire at #2 after sealing a 6-4 first set, dropping her second 6-1. Sophia Chen came up with a clutch 6-2, 7-5 victory at #4 in her fourth match in 24 hours since returning from injury to tie it up at 4-4, but Reisler would go down fighting at #2, 6-4 in the third, to decide the match.

ASCIT Minutes

Meetings are every week in SAC 13

ASCIT Board of Directors Meeting

Minutes for 5 May 2016. Taken by Phillip An.

Officers Present: Nima, Bobby Sanchez, Jay Palekar, Kalyn Chang, Phillip An, Robin Brown, Annie Chen

Call to Order: 12:06

Anjali (A capella) – Love sucks a capella concert was held last term in Dabney Hall

- 200 people showed up to concert
- Request money for sound system (\$85), instead of getting members to pay

Oasis – request funding for annual show (\$1000)

- Show will occur on 5/15 at Ramo Auditorium
- Money is for rental of auditorium, food, and water/utensils

President's Report (Nima):

- New BOD, once instated, will appoint a new secretary
- Midnight Donuts will be on May 18th
- Official turnover is Monday the 9th

Incoming Presidents Report (Serena):

- Transition dinner
- Fire and Ice event on olive walk with food to motivate students to come out from fire drill
- The Bings are retiring, May 21st concert to commemorate retirement

Officer's Reports:

- **V.P. of Academic Affairs (ARC Chair: Jay):**
 - Various faculty meetings regarding course enrollment and policies
 - Faculty board meeting on Monday regarding 12-term tuition policy results
 - Curriculum committee dealing with course registration and curriculum changes
 - ARC elected new reps and secretary
 - ASCIT teaching award form is out – can nominate Professor, graduate, and undergraduate TAs
 - Committee appointment will be next week
- **V.P. of Non-Academic Affairs (IHC Chair: Bobby):**
 - Committee appointments were this past weekend
 - Transition retreat will be next weekend
 - In the process of picking rotation planners
- **Director of Operations (Sean):**
 - Absent
- **Treasurer (Kalyn):**
 - Getting a new projector for the screening room
- **Social Director (Robin):**
 - Movie is tomorrow at Edwards Alhambra at 9:30 pm
 - Trivia night is tonight at Chouse
- **Secretary (Phillip):**
 - Will discuss transition lunch with Tom
 - Transition retreat will be next year

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. The next meeting will take place on **May 12th at 12pm in Winnett Lounge**.

Meeting Adjourned: 12:27 pm

REMINDER FROM COUNSELING CENTER:

Meditation Mob

(drop-in mindfulness meditation group)

Meets every Tuesday, 12:00-12:50 p.m.

Bottom floor of Winnett

VICE PROVOST'S OFFICE HOURS

Vice Provost, Chief Diversity Officer and Professor of English, Cindy Weinstein, holds regular office hours. This is an opportunity for undergraduate, graduate students and postdocs to meet and discuss what they'd like pertaining to the Council on Undergraduate Education, Caltech accreditation, the Staff and Faculty Consultation Center, Student-Faculty Programs, the Center for Teaching, Learning and Outreach, the Caltech Diversity Center and the libraries.

There are four appointments per hour, 15 min. each. Sign up the morning of the office hour in 104 Parsons Gates, Vice Provosts' Offices (x6339).

Spring Term Office Hours

12 p.m. - 1 p.m.

Thursday, May 12

Wednesday, May 18

Tuesday, May 24

Friday, June 3

The California Tech

Editors-in-Chief
Jon Cotler
Katherine Guo

Page Editors
Chloe Hsu
Ida Huang
Hye Joon Lee
Ciara Ordner
Neera Shah

Copy Editor
Nehaly Shah

Contributing Writers
Kshitij Grover
Sean McKenna

Contributing Photographers
Gloria Ha
Halston Lim
Michael L. Wong

Circulation Manager
Kit Chinetti

Advisor
Richard Kipling

Caltech 40-58, Pasadena, CA 91125
Contact tech@caltech.edu

The Tech is published weekly except during vacation and examination periods by the Associated Students of the California Institute of Technology, Inc. The opinions expressed herein are strictly those of the authors and advertisers.

Letters and submissions are welcome; e-mail submissions to tech@caltech.edu as plain-text attachments, including the author's name, by Friday of the week before publication. *The Tech* does accept anonymous contributions under special circumstances. The editors reserve the right to edit and abridge all submissions for any reason. All written work remains property of its author.

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

Caltech Public Events Hiring Ushers

Flexible hours.

No experience needed.

Outgoing Personality.

Pay Rate:

\$15 per hour

Caltech Students only!!

Contact: Adam Jacobo

626.395.5907

ajacobo@caltech.edu

Lim discusses perspective, social inequality in South Africa

Continued from page 1

took over the coastal areas to set up trading posts at the ports. In doing so, they pushed the Khoisan off of their land, and the tribes were forced to retreat back to Table Mountain.

The Mellon Fellows were taken on a tour by Martin Hall, professor emeritus at the University of Cape Town, who showed that the architecture in South Africa still carries remnants of the Apartheid era. When Lim was there, he saw one of the only statues left from the time: that of Cecil John Rhodes, one of the main proponents of Apartheid policy. This statue was recently removed in April after a successful “Rhodes Must Fall” protest movement by South African students.

As he showed a picture of an unmarked slave bell, Lim said, "This is another example of how there are things in the architecture that speak loudly to what happened." Such "slave bells" were used by slave owners, especially those on plantations, to dictate working hours for the slaves. The bell itself looks innocent to passersby who do not know the story behind it.

One of the most well-known plantations from the colonial era is Groot Constantia, which employed up to 30 slaves at a time. There is now a museum on the plantation, owned and operated by the South African government, that focuses on the life of these slaves during the early modern period. The museum is home to artifacts such as a slave's toothbrush, slaves' personal belongings and documents showing ownership of slaves as property.

Yet another manifestation of social inequality was in the creation of townships. Europeans in the colonial cities needed labor during the gold rush but would not allow workers to live in the cities. Rather, the South African laborers were forced to live in "townships" and walk miles to and from the cities for work. They also had to carry "dumb passes" that had to be stamped by the Europeans to allow them to even be able to travel between townships and cities.

There were some areas that were fully integrated though, such as the District Six neighborhood in Cape Town. But under Apartheid, this was considered to be unacceptable. Buildings were torn down and many residents were pushed out

in an effort to keep the different classes of people separate. There is now a District Six Museum, which Lim visited, that honors the fully integrated community that had lived together before being separated.

Finally, Lim visited Robben Island off the coast of South Africa. Nelson Mandela was imprisoned here along with other political opponents during Apartheid. Lim's tour guide on the island was actually a former prisoner who was held there for 17 years. This seemed interesting to Lim, as he wondered why the tour guide would want to keep going back to the island which had held his prison. "When I asked [the tour guide] why, he said, 'If I don't tell people about it, then they'll forget about it or cover it up,'" Lim said. This added to the conversations Lim had with locals and other researchers about the delicate balance between honoring the past and also removing symbols of oppression.

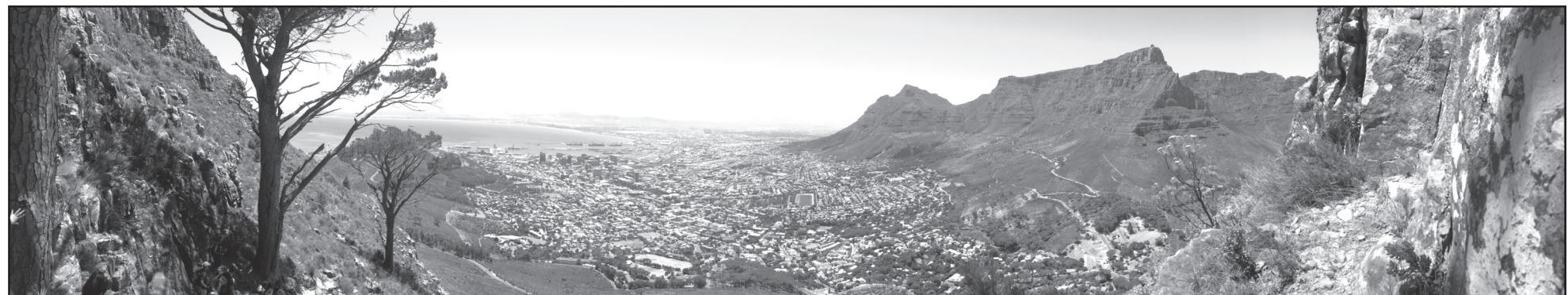
It is a pivotal point in South African history as racial tensions continue to rise. The recent protests against university tuition and the “Fees Must Fall” campaign only add to the evidence of

persistent racial conflict and social inequality in South Africa. But, as Lim's trip indicates, there are many people dedicated to continuing to understand, spread awareness about and promote positive change in today's post-Apartheid South Africa.

Mays Undergraduate Fellowship conference in South Africa, he said, "Naturally, from my background, there's always been somewhat of an identity question." Lim's account of his arrival confirmed this. He recalled how his nervousness about being able to fit in with the group was quickly alleviated. Even though everyone may have had differences on the surface, Lim and the other students all shared a common thread of passion for their work and the people around them. He said, "What really surprised me was everything. They are all serious researchers in their own respect, all amazing, very passionate about what they study and willing to talk about the issues. They actually want to make change."

Lim's encounter with so many peer students who are involved in impactful research and are empowered to make change gave him a new perspective. Upon a final reflection on his experience, Lim said, "I think about how to use this perspective in what I do every day."

More information about the fellowship can be found at the Center for Diversity on campus or online at <https://diversitycenter.caltech.edu/urms/mmuf>.



Features of the city visible from this elevation, such as the Dutch water reservoir and direction of streets, show how European colonialism has shaped Cape Town.

Photo Courtesy of Halston Lim

Crossword

Across

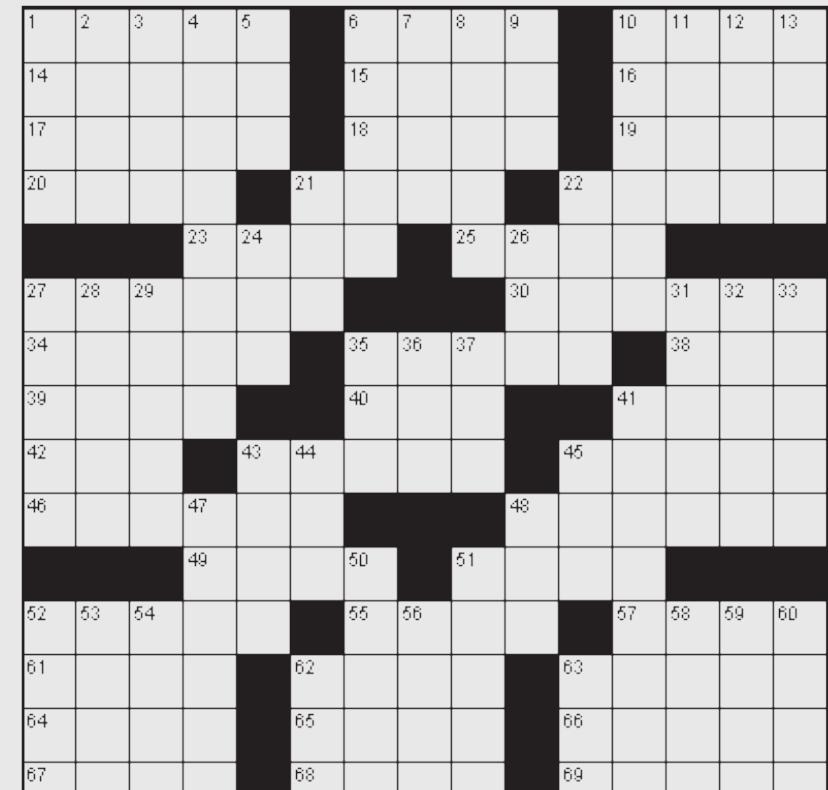
1. Manage
 5. Unit of power
 9. Draw out
 14. Presage
 15. Currency unit
 16. Animal toxin
 17. Catafalque
 18. Small nail
 19. Endow
 20. Minstrel
 23. Make a mistake
 24. Ineffective
 25. Showily imitative
 26. Combined
 29. European mountain system
 31. Not any
 32. One, some, every or all
 34. Musteline mammal
 37. Misfire
 38. Deity
 39. Flow out
 40. Poem
 41. Edible bulb
 43. Frequently
 45. Connecting point where several lines meet
 46. Nightspot
 48. Relating to a tail
 50. Happy
 52. Irony
 55. Rodent

56. Contemplation of things past
59. Speak up
61. Fortune
62. Part of a tooth
64. Square root of forty-nine
65. Succulent
66. In addition
67. Mixture of rain and snow
68. Center of authority
69. Endure

Down

1. Adult male swan
2. Leave out
3. Look searchingly
4. On the way
5. Netlike
6. Pertaining to hearing or the ear
7. Used as part payment for a new one
8. Disorderly outbursts
9. At any time
10. Lair
11. Comprehended
12. Judicature
13. Mineral, used as an abrasive
21. Employ
22. Country, initially

25. Mentally quick and resourceful
26. Untie
27. Word used to refer to a person, place or thing
28. Pointing out or revealing clearly
30. Tennis return in a high arc
32. Fuss
33. So far
35. Starchy tuberous root
36. Bobbin
38. Large African antelope
42. Past times
44. Collet
45. Represents a number
47. Fatal cattle disease, initially
48. Sarcophagus
49. Egyptian cobra
50. Twelve dozen
51. Part of a jacket
53. Book of maps
54. Beverage, usually drunk hot
56. Let for money
57. Carbonated drink
58. Flip of a coin
60. Indicating maiden name
63. Small indefinite quantity



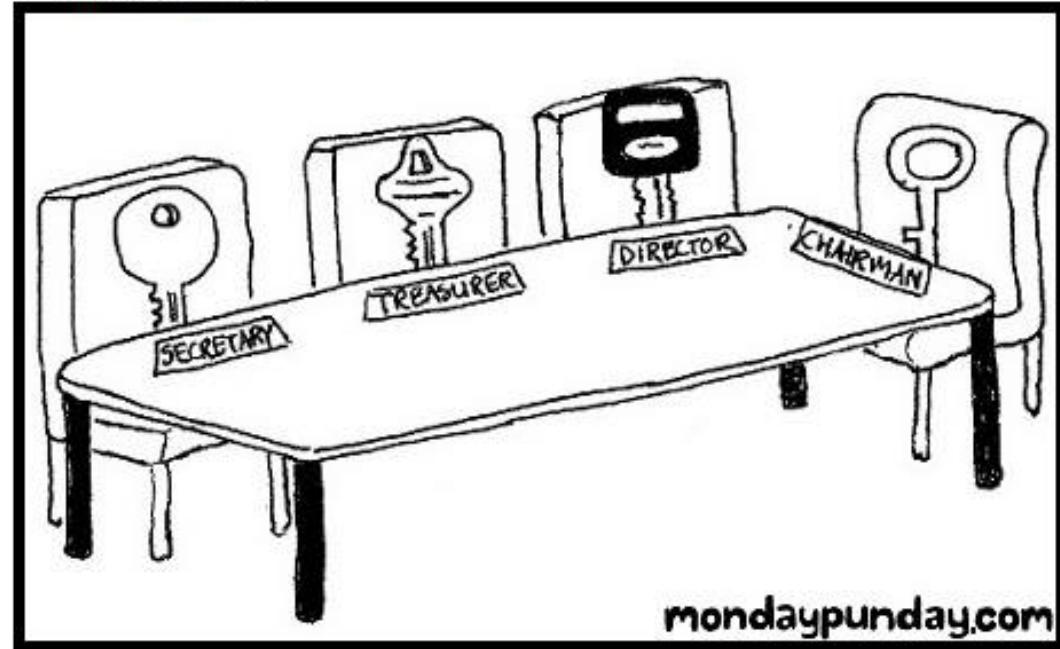
-http://puzzlechoice.com

HUMOR

THE CALIFORNIA TECH

Monday Punday

Monday Punday



This picture represents a common phrase, title, or person.

Think you know the answer? Take a guess at mondaypunday.com/48

Guess the science terms in band/rapper names! C. Bhad

1.

2.

Apr. 1

3.

Hello my name is:
TY

$$a^+ | n \rangle = \sqrt{n+1} | n+1 \rangle$$

4.

ANSWERS:

1. Rags. Agains + the (Turing) Machine
2. Geca (Flour scented protein) Day
3. Tyga, the creation operator
4. Twos (complement) door cinema club

Answers to current crossword (p. 7)

S	L	E	E	T	S	E	A	T	L	A	S	T
S	E	V	E	N	A	L	O	E	A	L	S	O
O	P	I	N	E	L	U	C	K	R	O	O	T
R	A	T	R	E	T	R	D	S	P	E	C	T
G	L	A	D	S	A	R	C	A	S	M		
C	L	U	B	E	C	A	U	D	A	L		
O	N	I	O	N	O	F	E	T	N	O	D	E
D	U	D	G	O	E	E	B	B	O	D	E	
N	O	N	E	A	N	Y	O	T	T	E	R	
U	N	I	T	E	D	I	A	L	P	S		
T	R	D	U	B	A	D	O	U	R	E	R	
B	I	E	R	B	R	A	D	E	N	D	U	E
O	M	E	N	E	U	R	O	V	E	N	O	M
C	O	P	E	W	A	T	T	E	D	U	C	E

-<http://puzzlechoice.com>

The California Tech
Caltech 40-58
Pasadena, CA 91125