

That Was the Year That Was — or Was It?

Michael Gutierrez
News

A brief, abridged recapitulation of the events of this academic year, in very rough chronological order. Enjoy!

The Tech published the Rotation schedule for the first time since 2019.

SPECTRE library's famous 'Anakin' lifesize figure was found in the dumpster outside Fleming House.

Blacker House's potato cannon and two of Rickett's House's traditional 'skits' were banned from Rotation.

The "Question the Quail" column and other satire content in The Tech continued to irk campus administrators (though none of them were irked enough to contact us about it directly, opting instead to complain to ASCIT and IHC leadership).

Two sophs sent a prank email to all freshmen through the Housing Office's official email address, were disciplined by the Deans, and were instructed to write an apology letter to be published in The Tech as part of their sanction.

Caltech Dining Services returned to full pre-COVID operations, including the berry station on weekends, and a new vegan-only selection in collaboration with Plant Based Union.

The Admissions Office hosted the largest-ever Caltech Up Close event for prospective undergraduate applicants, bringing 200 high-school students to campus.

The grad student listserv erupted into two flamewars — one about a humanitarian crisis halfway across the world, and one about squirrels — and President Thomas Rosenbaum was forced to intervene.

Athletics facilities continued to undergo much-anticipated renovations. There was a brief asbestos scare, and controversy surrounding Athletics Director Betsy Mitchell's decision to make the Braun Gym patio doors exit-only, to the dismay of Bernoulli the Beaver.

Dabney House celebrated the beginning of Mariah Carey's defrosting season by blasting "Welcome to the Christmas Parade" at the conclusion of the annual Pumpkin Drop.

Several murals in the undergraduate houses were painted over or modified due to a new mural policy.

Caltech deferred policy-setting on the use of AI tools like ChatGPT to individual departments and professors.

Kip Thorne and Lia Halloran released their new art and poetry book, *The Warped Side of Our Universe*, and celebrated with a book talk at Caltech.

Following growing distrust in the Honor Code by several faculty stakeholders, the undergraduate Board of Control (BOC) acquiesced to some procedural changes and additional oversight by the Deans' Office.

The Housing Office replaced several couches in the undergraduate houses with extremely uncomfortable and ugly new ones, prompting a questionably-justified magnitude of outrage from lounge frosh across campus.

The ASCIT Screening Room in the south houses was completely renovated with new non-crusty furniture and easily-washable covers.

Laundry machines in all undergraduate residences were upgraded to a new payment system which does not accept student ID payments; users instead must create an account on a smartphone-only app, which requires a U.S. phone number, credit card, and a password that does not contain any special characters and is less than 16 characters long.

The 2024 College Free Speech Rankings, conducted by College Pulse and the Foundation for Individual Rights and Expression (FIRE), gave Caltech a title of "Slightly Below Average", placing it 144th on the list of 248 universities (Harvard being dead last at #248, but that does not come as a surprise).

Caltech graduate students and postdocs unionized to form Caltech Graduate Researchers and Postdocs United-United Auto Workers (CGPU-UAW) with overwhelming support.

Several undergraduates shared their stories and experiences with Caltech's Title IX Office in The Tech, highlighting a recurring theme of official complaint and investigation processes taking months longer than expected.

Hima Vatti, then-Title IX Coordinator, subsequently resigned from her position (for unrelated reasons — to pursue a position at another institute). The Tech published the results of a poll of undergraduate students on

this topic, following multiple weeks of back-and-forth with VPSA Kevin Gilmartin and the Institute Review Board regarding whether the poll counted as "human subject research."

Following the recommendation of a Faculty Advisory Committee on Undergraduate Admissions, Caltech reinstated the standardized testing requirement for undergraduate applicants beginning with the Class of 2029 — ending the moratorium one year early. In the wake of that announcement, The Tech leaked a petition from 150+ faculty members which expressed concerns about recent students' academic performance and called to reinstate the SAT requirement.

Caltech Theater (TACIT and EXPLICIT) put on a multitude of pioneering productions including "Another Revolution", the MACH 33 New Science Driven Play Festival, "The Real Inspector Hound", and "Earth Data The Musical Part 1: The Beta Version".

JPL was forced to lay off 8% of its workforce due to federal budget cuts.

Droves of people scattered across the southwestern region of North America to witness the April 8th total solar eclipse.

ASCIT Formal at SoFi Stadium was a huge success, despite innumerable trials and tribulations (not the least of which was the Office of Student Experience trying to concurrently schedule parents' weekend, then stalling approval of ASCIT's contract which had been pending for months beforehand).

Pasadena Mayor Victor Gordo gave the 'State of the City' address at the Cahill Center.

The Tech, in collaboration with Caltech Prank Club pulled the first official prank on MIT in several years, delivering specially-crafted shitpost newspapers throughout Cambridge.

In consultation with the IHC, the Housing Office revised the rules for the unaffiliated-priority housing lottery, giving less advantage to those "recently unaffiliated" who unaffiliated during or after winter term.

Caltech Turtle Club launched a campaign to change Caltech's mascot to the turtle.

DiscoTech (formerly known as Prefrosh Weekend) brought nearly 200 admitted students to campus. In anticipation of the trending increase in yield rate, only 315 undergrads were admitted to the Class of 2028 in total.

The timeline for the new Ginsberg Center for Quantum Precision Measurement, to be constructed south of the Linde building on California Ave, was announced.

The Institute's Free Speech and Expression Policy received heavy revision. A group of undergraduates held a silent sit-in protest in solidarity with Palestine, receiving 3 seconds of airtime on a local television channel.

A visiting committee for student affairs recommended a complete reorganization of Caltech's Student Affairs department.

Contributors to The Tech finally got paid!

The Decision-Making Process for Reinstating Standardized Testing in Admissions

Emily Yu
News

In an email to faculty on January 30, 2024, President Rosenbaum wrote that, "Two questions that have arisen in recent campus conversations concern the value of standardized testing, and the appropriate role of extracurricular activities, in admissions decisions. We have asked the Advisory Committee [on Undergraduate Admissions Policy] to accord these questions high priority and, if possible, to offer their

recommendations on standardized testing by the end of March and on extracurricular activities by the end of April."

The Faculty Advisory Committee on Undergraduate Admissions Policy, reported on in the February 6 edition of the *Tech*, orally presented their recommendation to the Faculty Board at its monthly meeting on April 8. After the presentation, the Faculty Board held a formal vote and decided to take up the recommendation. Caltech's reinstatement of the standardized testing requirement in admissions was announced on April 11. This decision ended the moratorium that was originally set to expire in 2025.

In a conversation with Provost David Tirrell and Advisory Committee Chair Professor Steve Mayo, the *Tech* was told that the committee "spent a lot of time thinking about what the implications would be if we decided to end the moratorium a year early" and it was clear based on what they were seeing that it would be advantageous to do so. The factors that the committee considered included the number of admitted stu-

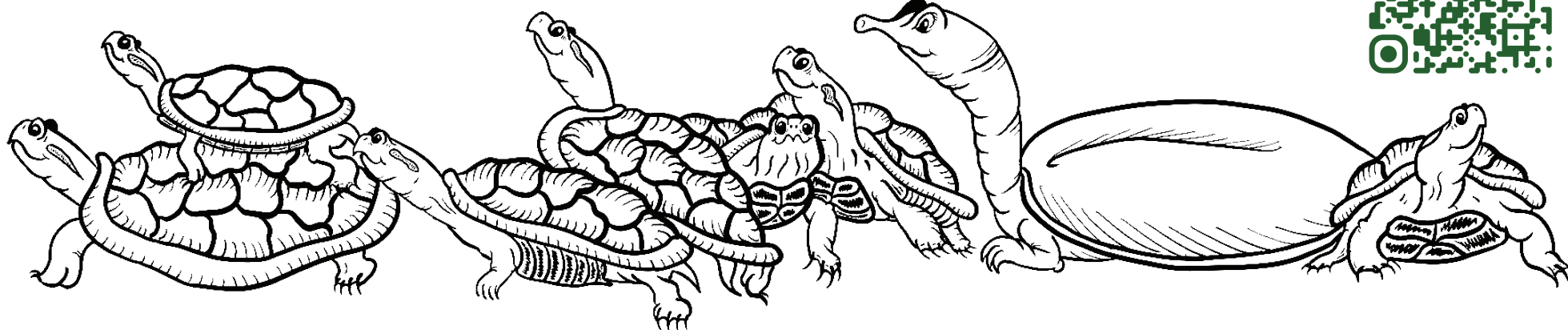
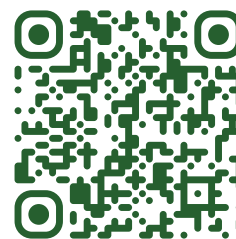
dents taking standardized tests during the moratorium, the ability to see AP scores, and decisions from peer institutions.

The vast majority of admitted students in the last four enrollment years took and reported their standardized test scores. During the moratorium, AP test scores were also not available. The committee took into account research showing that AP test scores are highly predictive of student performance, much more than SAT/ACT scores. Professor Mayo also stated that "a large fraction of

continued on page 2

Make *The Turtle* Caltech's New Mascot! Sign the petition here:

or at tech.caltech.edu/turtle



Students for Justice in Palestine:
The Caltech <> Raytheon Connection

page 8

The Role of Athletics
in Admissions

page 4

Meet the People of Red Door:
Deveon Howard

page 10

SAT Reinstatement

continued from page 1

[Caltech] applicants apply to MIT and Stanford.” MIT has reinstated standardized testing requirements and Stanford is test-optional, so “a significant fraction of students will be taking the test anyway.”

When researching for this article, the *Tech* was made aware of work being done by the Student Success Analysis Working Group. This group was composed of Professors R. Michael Alvarez and Jonathan N. Katz, as well as the Institute’s Chief Institutional Research Officer, Lindsey Malcom-Piqueux and the Dean of Undergraduate Studies, Lesley Nye. Formed in 2022 at the instigation of Professor Kevin Gilmartin, the Working Group has collated and analyzed data related to standardized testing in admissions decisions, among other things.

In research reviewed by the *Tech*, the Working Group found that although a correlation exists between SAT/ACT scores and undergraduate students’ academic performance, especially in first-year core curriculum classes, it is small in magnitude. They showed that adding standardized test scores to predictive models of grades that account for basic socio-demographic variables does not significantly improve the accuracy of its predictions. Also, their findings demonstrated that the distribution of standardized test scores for admitted students who took a test after the moratorium was enacted was identical to the distribution observed for previous cohorts.

When asking Professor Mayo about these findings and whether the committee took them into consideration, he stated that the Working Group’s findings have been “extremely useful and timely,” but the committee also did its own research which showed stronger results. The main point Professor Mayo emphasized is that there is no debate about whether or not there is a correlation between standardized test scores and student performance. He noted that both the Working Group and the committee found correlations. While the size of the correlation in the Working Group’s research was not high, it was statistically significant. The committee’s study recapitulated this finding. The committee focused primarily on shadow GPA (first, second term first-year STEM GPA) where the strength of the correlation was higher. Their analysis also showed that there was a statistically significant correlation between standardized test scores and later terms. The strength of the correlation was smaller, but the correlation was there and statistically significant. Professor Mayo recognized that there are differing opinions regarding the extent to which admissions should rely on that correlation. However, the committee found that having additional data is helpful, particularly for validating choices of applicants who are from schools where less information is available, so it is harder to calibrate the applicants.

The *Tech* also asked about the reliability of shadow grades, given that having the first two terms as pass/fail is to allow students to adjust to Caltech without having to worry too much about their performance. Professor Mayo acknowledged this point but stated that the

challenge with using grades after the first two terms is that Caltech, like many other institutions, has seen significant grade inflation. As the grades all compress around a high value, the ability to see a strong correlation in that data decreases. A correlation is much more obvious in shadow GPA than in other data sets.

Additionally, the *Tech* was told that the formulation of the Faculty Advisory Committee on Undergraduate Admissions Policy was not in response to the faculty petition; the decision to form the committee was made prior to its circulation. For context, on February 6, the

Tech reported that a group of professorial faculty submitted a petition to President Rosenbaum in the beginning of January. It alleges that there has been a decline in student readiness for and performance in classes. The primary call of the petition was to reinstate the SAT/ACT at some level in admissions decisions.

At the April 8 Faculty Board meeting, the committee and the board discussed what impact reinstatement would have on current students at Caltech, as well as the potential perception that the faculty think that current students are not actually qualified to be here.

Professor Mayo stated, “That is completely, absolutely not true. We support the students that are here. This is about getting more information in the future about future admits to make more informed decisions. Most times, more data are better. The decision had nothing to do with criticism or deficiencies in current classes; it was all about thinking about what the rest of the world was doing, the other kinds of things we wanted to see like AP test scores, and providing as much information as possible to make the best decisions about future incoming classes.”

More on this topic continued on page 4

Athletics in Admissions at Caltech — A Look at Some Numbers

Graphic by Alanna Yelland

DO IT NOW!!!



Beautiful, Unrealistic Solutions (*Lessons in Chemistry* Review #4)

Victoria Davis
Culture

Well readers, an entire term has gone by and I did not continue my column on the Apple TV+ series, *Lessons In Chemistry* in a timely manner. Apologies. I know you all were dying for more of my ramblings on this very mid show. As it is the last paper of the academic year, I will cram my reviews of each remaining episode of the series into this one column. Lord knows we don’t need to be held in suspense over the summer nor have this column bleed into the next academic year.

To recap, in the past three episodes, we meet Elizabeth Zott, a chemist whose life was derailed by a series of unfortunate events: raped and dismissed from her Ph.D. program, fell in love with a man—Calvin Evans—who dies, had her research stolen, and was fired for getting pregnant out of wedlock. Sometimes life sucks and you hit rock bottom.

Zott, however, is in luck. The next four episodes in the series take Zott on an unanticipated journey up and out of the hole she is in. In brief, Episode 4 focuses on Zott’s financial and emotional struggle of single motherhood with daughter Mad; Episode 5 centers on Zott’s miraculous launch to fame as a new TV cooking show host; Episodes 6 and 7 revolve around the mystery and backstory of Evans; and Episode 8 magically resolves all of Zott’s problems with a windfall of cash and her second enrollment in a Ph.D. program. Lord, I wish that was how every comeback story would be. But *Lessons In Chemistry* is fiction. *Lessons In Chemistry* was adapted from a book written by a woman who doesn’t know what it is like to try again in the field of Chemistry. To start again from scratch.

Episode 4: Primitive Instinct

Zott delivers her daughter alone and names her Mad—not for Madeline, but because she is mad. During the delivery and while raising Mad, Zott envisions Evans still alive and helping her parent. She never got to know him more or tell him she loved him. While grieving his loss, Zott leans on her neighbor, Harriet Sloane, for parenting advice and support. During this time, Zott struggles financially. She scribbles costs in a notebook: no income and crushing debt are burying her. As more and more bills arrive in the mail as overdue, Zott gets creative and starts a job as a consultant telling chemists what they are doing wrong with their research. She later finds out that Dr. Borowitz and Dr. Donotti have taken up her research project at Hastings Laboratory and are being funded by the Remsen Foundation.

Fast-forward seven years in the future: we see Zott’s daughter giving away her lunch to another girl at school because her TV show producer and single father, Walter Pine, fails to provide an adequate lunch for his daughter. Once Zott discovers that Mad is not eating her lunch, she storms into Pine’s office to scold him and leave him with a recipe and Tupperware

of her food so he can correct his ways. Pine tastes her food and runs to her as she leaves the production set. He offers her a job as the host of a local televised cooking show, “Supper at Six.” She turns him down.

Episode 5: CH₃COOH

As Mad attends school, she quickly learns new material and becomes bored with the pace set for the other students. Mad becomes disruptive in class regularly, prompting her teacher to recommend to Zott that she be enrolled in a private school with a more advanced curriculum. Zott currently supports her family through sales made during Tupperware parties, but needs more money to put her daughter into private school. She tries to get a job at the Phillips Lab, but they require references from Hastings Labs. Hastings Labs refuses to write her a letter of recommendation. As a result, Zott returns to Pine and accepts the “Supper at Six” host position.

Zott begins teaching women of the viewing area about delicious recipes and the chemistry behind the meals. While Zott can now afford to send Mad to private school, she works late and leaves Mad under the care of Sloane. Sloane takes Mad to choir practice where she meets Reverend Wakely. Mad becomes obsessed with finding out more about her deceased father and Wakely helps her on her quest. Zott transforms the “Supper at Six” show and becomes famous amongst female viewers. Zott speaks directly to the women at home watching and even answers questions from the predominately female audience at the end of the show. Reviews of the show from men are negative because they can’t see her figure under the lab coat, they think she is boring, and they dislike that she never smiled once. Women, however, felt empowered by the show. The phones keep ringing at the TV station, because viewership has increased and women are engaged with the show, wanting to ask for help and get tips for making the recipe of the day.

Episode 6: Poirot

In this episode, we learn a little about Zott’s childhood. Zott was first introduced to chemistry through her brother, who lit pistachios on fire with a match to dramatize their priest father’s sermons to the congregation. Her brother was gay and tormented by their father, driving him to ultimately commit suicide. Beyond this, we never learn anything more about Zott and we never see much character development for Mad. Instead, the series instead focuses on Zott’s role and influence as a famous cooking show host and Mad’s quest to discover the history, upbringing, and academic journey of her dead father.

We see glimpses of Zott using her role to “do good.” Zott encourages a housewife in the audience of her show to become a doctor or surgeon. Zott refuses to go against her values and does not promote the show’s sponsor “Swift and Crisp” because she does not believe in the product. On live TV, Zott promotes the local

protest spearheaded by her neighbor and friend, Sloane. Zott attends the protest, and we see a glimpse of police brutality against men and women of color trying to save their neighborhood. Each of these glimpses lacks depth and remains a superficial side-story sewn into the backdrop of the main story.

Mad takes the main story on an adventure to uncover the mystery behind the genius chemist, Calvin Evans, who died too soon. Mad and Wakely continue to investigate leads into Evans’s story. Mad finds a letter from a pen-pal of Evans. We discover that Wakely and Evans knew each other.

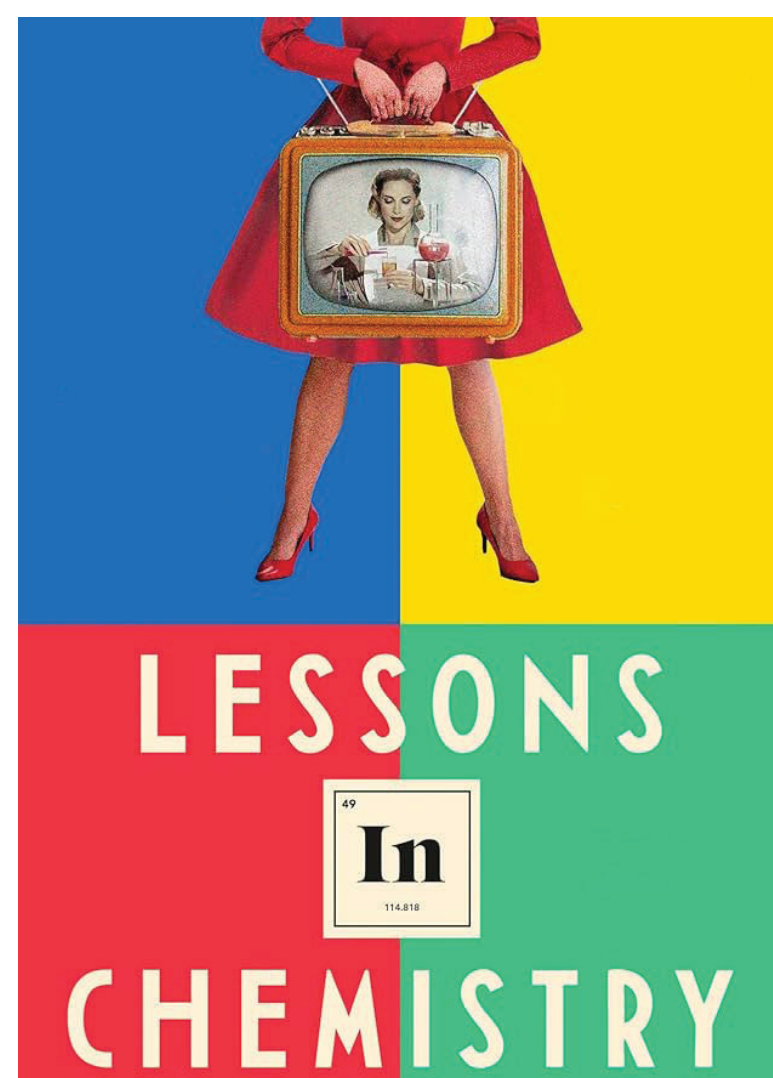
Episode 7: Book of Calvin

The entirety of Episode 7 focuses on Calvin Evans’s story. In 1930, Evans is a young boy at St. John’s Orphanage. He demonstrates great promise and intelligence for science at a young age. In 1948, he starts working at Hastings Laboratory. While giving a lecture at Harvard University, Evans impacts Reverend Wakely, prompting him to debate his research in the context of religion. The two exchange letters and debate their ideas for years. In Wakely’s opinion, science is the how, religion is the why. The two become friends and discuss their lives as the years go on. Wakely encourages Evans to date, saying that he should “stay open to unknown variables because no one is best alone.” In 1951, Evans meets Zott and writes to Wakely about her. Evans goes to pick out an engagement ring for Zott and gets her a one-of-a-kind ring. Zott moves in with Evans after Christmas. Evans shares his fear of proposing in a letter to Wakely, but he responds that he should not overthink it. As Evans and Zott live together, he begins opening up to her more and more. One day Zott tells him that she never wants to get married or have kids, so he doesn’t ask her to marry him. The next day, Evans goes for his morning run and dies. Wakely’s last letter to Evans never makes it to Evans as it is marked and sent back as “Return to Sender.”

In 1958, Wakely gives seven-year-old Mad the letters he has from Evans. Zott and Mad go to St. John’s to find out more about Evans. The priest there says he doesn’t recognize the name, Calvin Evans, and claims that all records from 1921 to 1939 were lost in a fire. Mad insists that the priest is lying to them and runs to the library to find out for herself. Mad and Zott find a book that Evans checked out in the past. The book has a Remsen Foundation stamp on it.

Episode 8: Introduction to Chemistry

In the final episode of *Lessons In Chemistry*, each plot line is tied off with a happy, convenient, or obvious bow. Zott contacts the Remsen Foundation and finds out why Evans had been funded his whole life by the Remsen Foundation. Unbeknownst to Evans, the Remsen Foundation was established by his mother, Avery Parker, who never wanted to abandon him as a child. Parker was 16 when she had Evans and her



parents gave him away. When she turned 25 and inherited her trust fund, she started the Remsen Foundation to sponsor boys at orphanages. When she finally found Evans, he was an adult and did not believe she was his mother. Now that Zott and Parker have met, Parker takes and interest in Zott and Mad.

Zott’s support of the protest results in Swift and Crisp pulling their funding from Supper at Six, so Zott finds a new sponsor: Tampax. Zott explains menstruation on live TV then steps down from the show. Sloane’s efforts to save her neighborhood fail, and the freeway motion passes. We never see any resolution or future prospects for Sloane. Instead, fast-forward into the future, with Zott’s newfound connection to research funding, we see Zott TAing introductory chemistry because she has decided to go back to school to get her Ph.D. All ends well for Zott.

If you know me, and know my story, you might understand why *Lessons In Chemistry* pisses me off. The journey for women in male-dominated Ph.D. programs is often filled with horror stories. My first Ph.D. program certainly was a horror story. The story where a woman is chased out of one Ph.D. program to spend years of self-reflection and healing only to return to a second Ph.D. program is not a common one. Nor is it an easy one. Nor does it spur from the fanciful life progression where she lands a well-paid TV show gig and then discovers family ties to a fortune!

I’m disappointed that we never learn about Zott’s story in full. She is the main character of this story, yet I don’t know anything about her as a person. What were her early educational influences? What talents did she have as a young student? When did she fall in love with chemistry? How did she make it to her Ph.D. program at UCLA? What was her healing journey like during her seven years of motherhood that motivated her to go back? What are her future ambitions and what does she hope to accom-

plish with her Ph.D. in chemistry?

I’m disappointed that for Zott as a character, chemistry was just an accessory. An accessory rolled into dough and baked to “perfection,” sprinkled with a love story, a mystery, and the undercooked tales of others—like Sloane—to appear diverse, interesting, and relevant. I would much rather know the true trials, tribulations, and triumphs of academic research and graduate school from actual chemists.

In short, *Lessons In Chemistry* lacks substance. Lord knows I never give much of my time to something that lacks substance, depth, or willingness to grow.

I will say though, that some of *Lessons In Chemistry* did capture ideas worth noting. Ideas that echo what I’ve learned gave myself space and time to heal, restored my soul, and tried again:

- Life is too short to be afraid of going after the things you want. A relationship, a career, a big move. Take risks. Make mistakes. Fail. And don’t be afraid to get up again, dust yourself off, and try again. It’s 100% worth it.

- Sure, it might be hard, scary, or uncomfortable. But you can’t let fear stop you from living. You’ll miss the beautiful moments and experiences life has to offer.

- Always strive to be the best version of yourself. Kill them with kindness. Be healthy. Be patient with yourself as you learn how to do this. Take time to heal. Grow. But don’t forget to live. Life is always happening. No one is perfect, and everyone is learning how to do better.

- Don’t shut out the people in your life, and new people you may meet on your journey, who see you. You might be surprised by the patience and grace they are willing to hold for you.

Graduate Student and Postdoc Workers Share Goals for a Better Workplace as Union Bargaining Begins

Jasmine Emtage, David Abramovitch, Aditi Narayanan
Op-Ed

This past February, Caltech graduate students and postdocs unionized to form Caltech Graduate Researchers and Postdocs United-United Auto Workers (CGPU-UAW) with overwhelming support. Over 76% of graduate students and 83% of postdocs voted yes, with historic voter turnouts of over 72% and 52% respectively. This win was a culmination of over two years of conversations between graduate student workers and postdocs, connecting over our shared desire to make Caltech the best it can be for all of us. With our union certified, graduate student workers (GSWs) and postdocs are in our strongest ever position to improve our working conditions.

On May 29, Caltech GSWs and postdocs began bargaining our first union contract to guarantee legally enforceable workplace rights including wages, benefits, and protections against abuse, discrimination, and unsafe workplaces. Led by graduate and postdoc bargaining teams democratically elected from among our peers, GSWs and postdocs will negotiate a contract as equals

with the Caltech administration. CGPU-UAW plans to follow in the footsteps of peer institutions by having an open bargaining process. This entails constant communication with all workers throughout negotiations and an open invitation to all students and postdocs to attend bargaining sessions. During bargaining sessions, GSWs and postdocs will be privy to real-time discussions between our bargaining teams and admin, and will have the opportunity to provide immediate feedback. Those who are unable to attend negotiations will still be able to directly provide feedback to their bargaining team electronically or in peer-to-peer conversation. As a diverse group of workers, we all deserve to have our concerns addressed at the bargaining table.

But with such diversity, how do our bargaining teams ensure that they are addressing our most pressing needs? Emma Lenz, a PhD student in Aerospace elected to the GSW bargaining team, helped write, distribute, and analyze a survey of students and postdocs that will inform contract negotiations. "Having detailed survey data will help us understand how to prioritize different issues as we negotiate our contract based on different GSWs and postdocs needs," she says, noting that

better wages, healthcare, and support for international scholars' visa renewal were among the top issues. The CGPU survey results broadly highlight the need for strong economic provisions. "I was surprised that 61% of GSWs and postdocs respondents were rent burdened," Emma said. "This shows why our contract must address the rising cost of living in Pasadena."

She also emphasized the ability to understand different subgroups' priorities. "Although wages were the top priority overall, GSW and Postdoc parents prioritized reducing dependent healthcare costs most, even above wages." These results complement those of Caltech's Climate Survey from 2021, in which only 7% of postdoc parents felt that Caltech provided adequate childcare benefits. Emma also highlighted the importance of comments left on the survey, which often sparked informative conversations. These include working conditions essential for a healthy and equitable workplace, such as accessibility, lab safety, and protections against bullying, harassment, and discrimination. This again recapitulates the 2021 Climate Survey, which found that nearly 40% of graduate respondents seriously considered leaving Caltech for reasons including conflicts with

supervisors or unwelcoming environments. As evidenced by both CGPU- and Caltech-administered surveys, the Institute's status quo fails to meet the basic economic needs and workplace rights of far too many GSWs and postdocs.

Each of the above issues has been addressed in union contracts at peer institutions. A group of Caltech grads and postdocs dove into contracts at Columbia, NYU, UC, Yale, Mt. Sinai, USC, Harvard, UW, Georgetown, MIT, and Brown to analyze the improvements and specific language workers everywhere have won through their unions. This research has played an important role in guiding the bargaining team as they prepare for the start of bargaining. For example, the most recent UC contract won enforceable protections against all forms of discrimination, harassment, and abusive conduct in tandem with a well-defined grievance process. James Williams, a PhD student in Electrical Engineering and one of the GSW bargaining team members said, "The grievance article is one of the most vital components of the contract as it is the mechanism by which we can enforce our rights and benefits included in other articles." Currently, at Caltech the grievance process occurs behind closed doors, with no set timelines and no right to peer advocacy. James went on to explain, "At universities like Yale and the UC campuses, students have won a strong grievance process which include enforceable timelines, an appeal to a neutral arbitrator, and a paral-

lel process. A parallel process means that students can pursue their grievances through the already-existing infrastructure such as the Title IX office while simultaneously using the grievance process."

From the results of the CGPU-UAW bargaining survey as well as the thousands of one-on-one conversations across campus between workers, GSWs and postdocs drafted initial bargaining demands—broadly shared goals among grad and postdoc workers in the major categories of wages, compensations, and benefits; justice in the workplace; international scholar issues; workplace rights and protections; and union rights. As bargaining begins, we hope administrators bargain in good faith, taking the time to listen to their workers' concerns and earnestly develop solutions. We are optimistic that by coming together as friends and colleagues and staying informed and engaged, graduate student and postdoc workers can negotiate a union contract which sets a new standard in academic work. Together, we can forge a stronger, more welcoming Caltech for everyone.

Jasmine Emtage is a PhD student in Biology, David Abramovitch is a PhD student in Applied Physics, and Aditi Narayanan is a PhD student in Biology.

Athletics in Admissions at Caltech — A Look at Some Numbers

Emily Yu
News

In an email to faculty on January 30, 2024, which was shared with the *Tech*, President Rosenbaum wrote that, "Two questions that have arisen in recent campus conversations concern the value of standardized testing, and the appropriate role of extracurricular activities, in admissions decisions. We have asked the Advisory Committee [on Undergraduate Admissions Policy] to accord these questions high priority and, if possible, to offer their recommendations on standardized testing by the end of March and on extracurricular activities by the end of April."

According to Professor Steve Mayo, chair of the Faculty Advisory Committee on Undergraduate Admissions, the committee interpreted "extracurricular activities" to mean athletics — specifically, the role that athletics may play in admissions decisions. When speaking to Professor Mayo on May 22, the committee's work was still ongoing so he was unable to share any of their current findings or what the scope of their recommendation might be. He did say that the committee is looking at a broad range of inputs, including admissions data, student performance data, and information on what it means to be an NCAA Division III institution.

The *Tech* reviewed a report containing some data regarding student-athletes at Caltech from the Student Success Analysis Working Group. This group was composed of Pro-

fessors R. Michael Alvarez and Jonathan N. Katz, as well as the Institute's Chief Institutional Research Officer, Lindsey Malcom-Piqueux and the Dean of Undergraduate Studies. Formed in 2022 at the instigation of Professor Kevin Gilmartin, the Working Group has collated and analyzed data about student-athletes, among other things.

For their research, the Working Group used data from the 2015-16 through 2022-23 academic years and looked at recruited student-athletes, actual student-athletes, and those who are neither. Their findings encompassed topics such as standardized test scores, core classes, and trends in option (major) choices.

The Working Group's research found that: "The distribution of standardized test scores does not meaningfully and significantly differ between students identified by admissions officers as recruited student-athletes, actual student-athletes, and those who are neither." In all cases, beyond the lowest percentiles, the distributions of standardized test scores between recruited/actual student-athletes and non-recruited students/non-student-athletes systematically converge.

Due to the moratorium that paused the SAT/ACT requirement, standardized test scores were not available or considered in the admissions process for the 2021-22 and 2022-23 academic years. However, student-athletes had the choice to voluntarily include their test scores in their applications, with the understanding that their scores

would only be used for research purposes and not impact their admissions decision. A survey was conducted to collect any missing standardized test scores.

For core classes, the Working Group found that: "The academic performance in the Mathematics and Physics core curriculum classes does not meaningfully and significantly differ between students identified by admissions officers as recruited student-athletes, actual student-athletes, and those who are neither." Additionally, "Students identified by admissions officers as recruited student-athletes are significantly less likely to enroll in the Analytical track of the Physics core curriculum classes."

Regarding option (major) choices, the Working Group looked at the 12 most popular declared majors—ACM, Astro, Bio, BioE, Chem, CNS, CS, EE, IDS, Math, MechE, and Phys. They found that: "Students identified by admissions officers as recruited student-athletes are more likely to declare Mathematics and Data Systems as their major."

The Faculty Board had its last meeting of the 2023-24 school year on June 3. If the Advisory Committee had a recommendation by then, the board may have decided to vote on the issue of the appropriate role of athletics in admissions decisions at Caltech.

THE TECH WANTS TO HEAR FROM YOU!



tech.caltech.edu/hello

- Caltech Accessibility Services (CASS)
- Experiences with Caltech's Title IX Office
- Paying for laundry/WASHConnect App
- The Turtle Mascot
- Anything else?

Tell us your opinions about things going on at Caltech with this new survey form on our website! You can submit any time, multiple times, about anything.

LET YOUR VOICE BE HEARD!

Do you have thoughts™ about...

Staging Earth Data in TACIT's *Earth Data: The Musical*

Damian Wilson
The Inside World

Last April, Theater Arts at Caltech (TACIT) staged the part one beta version of *Earth Data: The Musical*, an original musical inspired by real-life research at JPL. With shows held on the 25th, 26th, 27th, and 28th, this was the culmination of seven months of workshops—students and staff from every corner of the Caltech/JPL community acting, singing, and ideating in concert.

The musical is part of *Blended Worlds*, Caltech/JPL's submission to *PST ART: Art & Science Collide*, a November festival held in affiliation with the Getty, the city of Glendale, the Glendale Arts and Culture Commission, and the Glendale Library Arts & Culture Trust. The April run presented the current rendition of *Earth Data*'s first act; the remaining acts will be co-written over the coming months. Auditions for this new series were held May 25th in the Steven and Mie Frautschi Rehearsal Hall.

The project began as Team-Flow, a collaboration between *The Studio at JPL* and the *Shimojo Psychophysics Laboratory at Caltech* that was instigated in part by TACIT Director Brian Brophy. "[Shimojo Lab] does a lot of neurochemistry and looks at how the brain works in the flow state. ... The process began by asking how we can make future scientists—especially if they're going to be in space—practice different modalities and come in sync with each other, whether in dance or in song," Brophy explains. "You play these different possibilities out and take all the cognitive mapping going inside the brain, which can be translated into information for NASA."

As time progressed, Team-Flow morphed into a different project altogether. "One year, David Delgado, one of the leaders of *The Studio*, said to me: *What if you turned it into a choral musical about Earth data? I could watch that for hours.*" Brophy recalled. "This kind of triggered something in me! What if we made a musical about the data we're collecting? ... How do we understand that information? How would we have anyone care about it at all?" Thus began *Earth Data*, a synthesis of years of JPL mission data toward the narrativization and sonification of how science informs us of our precious planet—and what we do (or don't do) in response to that information.

Central to *Earth Data*'s development was its co-creative spirit, a virtue core to Brophy's theatrical philosophy. "We've been listening to everyone," Brophy said. "Obviously something worked, because we didn't lose anybody, really, for seven months. That's the proof to me [that *Earth Data* was successful]. That we held on to everybody, even when there were odd things or insecurities." As Brophy sees it, impactful theater is no easy feat. "Working at an emotional level is exhausting at times. Especially if you're

a student who hasn't explored the human, and just the logical rather than the emotional." Yet, through empathic collaboration, theater production can access a unique echelon of artistic depth. "Once you get past the skin, and past the bone," Brophy explains, one approaches the "tuétano": the psychological marrow of theater as media.

The immense value of such co-creativity was similarly emphasized by Emily Shisko, one of the project's lead musical composers, particularly in working with inexperienced actors and singers. "I see the work as a way to get [people who don't see themselves as composers] involved in music," said Shisko. "The compositional process is often the most mysterious to those who don't do it, and those who aren't trained in it feel disqualified from it because they feel like they need education to have a say in it. So I love playing that role in music-making," she continued. "Human beings are just so innately musical."

Indeed, *Earth Data* was a first exposure to musical theater for much of its cast and crew, and the level of co-creative agency shared by all made it a most invigorating one. Anya Janowski, a CEE staff member, not only played Lorelei—a neurotic-assistant type belonging to the corporate dimension of *Earth Data*'s narrative—but essentially invented the character. "I had no idea *Earth Data* was going on; I just wanted to see if I could be involved with the theater department in some way," Janowski said. "I kept coming back for every workshop and it kept snowballing from there into this character Lorelei." Surely enough, it was through Brophy's co-creative, play-driven approach that Lorelei emerged in the script as an evolution of improv done by one of the actors in an earlier workshop. "We once did this exercise with this character, and I think they liked her so much that they created this irritated, kind of on-edge, slightly deranged assistant as one of the antagonists of the show."

Driven chiefly by collaborative play, *Earth Data*'s production began with some ambiguity as to its exact textual shape. Albert "Joey" Jefferson, a JPLer who played main character JJ and also wrote ("Water Gives Me Life") spoke to the anxiety of those early workshops. "It's scary at first because it feels like there's no form and we're not really doing anything. But how Brian works reminds me of phase changes: You have ice and you're heating it up, and when you hit 32 degrees, all of a sudden something magical happens," said Albertson. "I think it was something special."

The musical, as much as this Caltech thespian would like to deem it a success, only clearly took form in its final hours. As Shisko put it: "These plates are all spinning and they're on sticks and fingers and the tops of heads, and the plates are spinning faster and faster. ... You're like: *This is all going to fall apart in a clatter of plate shards and glass.* And then you look down, and the table is set."



Cast and crew of *Earth Data*, from left to right: Joony Kim, Bradley Gay, Sullivan Braun, Josef Svoboda, Kimberley Rain, Eduardo Nascimento, Anya Janowski, Cole Remmen, Julian Wagner, Karen Shekyan, Maria Azcona Baez, Barbie Insua, Albert "Joey" Jefferson, Solvin Sigurdson, Armin Kleinboehl, Brian Brophy, the author, Eric Smith, Arabella Camuñez, Ariane Helou, Emily Shisko, Boyuan Chen, and Cai Tong Ng. Not pictured is crew member Mateo Delgado.

Eric Smith (MechE '23), Caltech alum and now JPLer who played Sterling—one of the play's corporate antagonists—found the initial formlessness of *Earth Data* particularly difficult. "We started with no story, no script, no music in October, and then we didn't get a story or a script until about [mid-April]. ... It was a little bit chaotic," Smith said.

Yet, Smith was ultimately proud to have helped build *Earth Data* from the ground up: "I performed in an original musical. ... Someone wrote music based on my vocal range, my voice; our composer was writing music based on what the actors could sing. It was really cool." (I certainly agree with that sentiment.) "It's going to be a lot of fun if we get to [finish *Earth Data*]," Smith added.

In true Caltech fashion, the scientific research involved in the musical's main conflict is inspired by the real-life work of Kimberley Rain and Bradley Gay, two Earth scientists at JPL. "I think a lot about arctic change, but also the human impact on the landscape in addition to climate change," Rain said.

"Which chemicals are being released where, what the impact of human infrastructure like oil and gas is. ... Anything humans have accidentally or intentionally stored is being transmitted into the wider environment, and a lot of these chemicals are pretty intense, pretty bad. Anything from testing nuclear weapons to DDT." (Such "disregard of where we are," which he also phrased as "the carelessness of human ingenuity," was for Brophy *Earth Data*'s paramour theme.)

Materials from Rain and Gay's research were even incorporated directly into *Earth Data*'s scenography. "Brad's been able to share field notebooks, recordings of wolves, a lot of pictures from our field work that even we did gently," Rain remarked. "He's shared as many photos and videos as possible, and that's informed a lot of the visuals in the set design." Rain and Gay's work further drove much of the play's characterization. "My research has also informed the background for Mab, one of the lead roles," Rain added.

Maria Azcona Baez (ChemE '25), who played Mab, related how pieces like *Earth Data* ground the import of science like Rain and Gay's for a general audience: "Revolutions don't come out of nowhere. ... Generally, if you get smaller experiments laying down the groundwork for what would

be revolutionary, hence why we use language like 'standing on the shoulders of giants' throughout the show," Baez said. "But you do feel this responsibility, especially when asked: *Why does your research matter?* So we can use that as an anchor to explore these wider societal issues, and it becomes more personal and easier to conceptualize. That's when people actually learn and engage."

Arabella Camuñez (ChemE '27), who played Dahlia, highlighted the play's engagement with those ethical conflicts that emerge from the interplay between STEM, money, and corporations. "[Dahlia] was—I'm trying to think of a word that's not *traitor*—portrayed as being a sellout, but she played a very important part of the battle between wanting to do research for the sake of doing research and wanting to make money, which I think is a very common struggle that people in the sciences face," Camuñez said. "It was really cool to see her evolution from someone who's really involved in research, and passionate about science for the sake of science, to someone who's trying to climb the corporate ladder and started to care more about the money."

One reason TACIT is so special for me is that, at least as I see it, pop culture tends to either oversimplify science—occasionally to the point of condescension—or otherwise fails to present actual research in a fashion that can productively redirect people's attention.

"Often, people who are in theater who don't have experience in science have a limited way of accessing what scientists are like, what sorts of conversations they have, and how they do their work, because it's a black box for us," Shisko said. "We don't see the work that happens in a lab."

The stakes become elevated when popular media substantively interacts with the social-political discourse whereby popular misconceptions and otherwise disconcerting attitudes toward science can jeopardize the world's ability to put research (e.g., Rain and Gay's work) into action. "Whatever you are ideologically, it's a moment in our time that has probably never been so fractured," Brophy expressed. "Disinformation, misinformation, information... How can we, in the knowledge commons, find sources of information and discourse that give us agency?"

As if responding to these questions Brophy posed, Cole Remmen—another musical composer for the show—articulated what makes TACIT so magical (and so necessary): "We engage scientists on every step of the process: as writers, collaborators, science advisors, designers, etc. This can really only be done at a place like Caltech, where scientists give really open access to their work and are also really creative. It's a really exciting place to do theater!"

Earth Data resumes production in the fall.

The California Tech

REPORTERS & COLUMNISTS WANTED

Calling ALL members of the Caltech community — not just undergrads. *The California Tech* is the voice of the people, and we need you to speak!

Visit tech.caltech.edu/write (or QR Code) to see story ideas and open positions

tech.caltech.edu/submit

tech.caltech.edu/discord

tech@caltech.edu

oh god how did i get here i am not good at communicating thoughts and feelings in a healthy and effective manner

are you good at communicating thoughts and feelings in a healthy and effective manner? join the tech!

Songs to Char a Marshmallow to

WARNING: Consuming charred marshmallows can expose you to chemicals including [name of one or more chemicals], which is [are] known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov/food.

Sophie Elam
Culture

3. Kings of Summer- akoyak & Quinn XCII
4. Feels Like We Only Go Backwards- Tame Impala
5. Dancing In the Dark- Cannons
6. Franklin's Tower- Grateful Dead
7. The Place That Makes Me Happy- The Moss
8. Red Red Wine- UB40
9. Doin' Time- Lana Del Rey
10. James Dean- Tash Sultana
11. Sunflower Seeds- Bryce Vine
12. Loving Is Easy (feat. Benny Sings)- Rex Orange County
13. Just Like Heaven- The Cure
14. Runnin'- Wings of Desire
15. This Summer- Maroon 5

Hot takes from the chef:

Here we go again with reviews of songs on this week's playlist that I'm particularly excited about!

For starters, I may not be from Jersey, but I can understand why people refer to Bruce Springsteen as "The Boss". With so many iconic songs, he's certainly had a major influence on music, one example of which being the large number of covers he's inspired. That being said, I'm only slightly, lowkey obsessed with Cannon's cover of Dancing in the Dark. For any of you who may have been around SoCal back in November of 2021, you may be aware

that lovelytheband played at the Fonda that month, and Cannons was one of the openers. Overall, it was a killer show, and Cannons definitely did their share of contributing to the vibes. I've been following Cannons for a while now, and while all of their music is vibey and could make a case for being included on many summer-y playlists, I felt this cover was a great place to start. (Also- if you like Bruce Springsteen covers, I highly recommend Joe P's version of I'm on Fire).

If we're talking about phenomenal shows in LA, another great one was The Moss, who played at the Troubadour last fall. I don't know how on earth I stumbled across The Moss, but they've consistently made my Apple Music Wrapped Top 10. I'd argue that the best way to imagine them would be to think of what Grateful Dead meets Backseat Lovers might sound like... You're probably just better giving them a listen- it'll probably do them more justice than an abstract description. Regardless, they have a super unique sound, and The Place That Makes Me Happy is like the audio equivalent to camping.

When looking at this playlist, I realize Red Red Wine is a bit of a black sheep in the crowd, but it's just so good. My dad and I always had a joke that reggae is the ultimate summer genre,

and anytime it's playing, the temperature increases by 10 degrees. It just creates such a laid back energy, and it's nearly impossible to be in a bad mood with UB40 in the room. In all honesty, I feel like I had the obligation- actually let's call it the privilege- to include UB40 on this playlist, and I hope everyone else can appreciate it.

Finally, Just Like Heaven by the Cure exists in my mind amongst other songs like The Promise by When in Rome (for another great cover, check out the version by Jelani Aryeh and Samia) and Coming of Age by Blondes that feel like they belong in the end credits of your favorite 80's movie. Talk about some MASSIVE main character energy. If that's the atmosphere you want for your summer nights, then this song is for you.

Here's to wrapping up the 2023-24 school year!

Wishing everyone a great summer ahead filled with friends, s'mores, lighting things on fire, and music for main characters!

[fire noise ASMR],

The New Graham Cracker Variety in Stock

Songs to Char a Marshmallow to (Apple Music)



Songs to Char a Marshmallow to (Spotify)



Voting in ASCIT Elections should be mandatory: An argument.

Eneko Arrizabalaga
Satire

Voting. It is every citizen's right, or in this case every Caltech undergraduate's right. Every year we as an undergraduate student body elect people to all manner of positions: ASCIT President, IHC Chair, CRC and BOC chairs, and of course, *Tech* Editor. Or at least some fraction of us do, ranging from a quarter to half of the student body actually voting in ASCIT elections. (You can see the exact numbers on all the past election forms on Donut, [donut.caltech.edu/1/surveys] (https://donut.caltech.edu/1/surveys))

It would seem that, despite many reminders to vote in these elections (at least in Dabney Hovse I have observed people sending multiple messages about voting on the day of the election), people still just don't care enough to vote. And unlike in the US elections where there are numerous roadblocks to voting (registering, getting to a polling place, etc.), voting in ASCIT elections is relatively simple; one solely needs to have access to an electronic device, log into Donut, find the open surveys, and click a few

buttons to rank candidates.

So with voter turnout so low, I would like to propose a solution: mandatory voting. Caltech could join the ranks of such nations as Australia, Argentina, and Belgium in requiring citizens to vote in elections. Increasing voter turnout will increase the efficacy of our democracy. How can an ASCIT President represent the whole of the student body when only about one class's worth of people vote (for example only 205 people voted in the Spring 2023 election)? The IHC chair is supposed to chair a committee representing all 8 houses, but with such low turnout, for all we know they could be controlled by a group of only 2 or 3 houses.

By forcing the populace to vote, we could also force the populace to be more informed of the issues, the elections, and the candidates. As an added benefit, it would promote personal responsibility in campus issues, eliminating those annoying individuals who prefer to just complain instead of actually doing something. Sure, there may be those who resent being forced to vote and will simply put down a vote of "NO"; but being forced to engage in democracy in this

small way (voting) might make others more engaged in other aspects as well (actually caring about ASCIT). ASCIT, the IHC, the BOC, and the CRC are all important student bodies on campus and even the average Caltech undergrad should care about the results of these elections. (For the record, *The Tech* is also an important student body on campus, and you should also care about us.)

In addition to making voting mandatory, ASCIT could also help lower the barrier to voting. I propose ASCIT make some "voting booths" and set them up on the Olive Walk where people can access Donut and vote. I know having to log into your Donut account on a new device possibly without a password manager might be more of an inconvenience than just voting on your phone, but I still believe the novelty and publicity of this would help encourage people to care about the election. And if people see the constructing of these voting booths as a bad use of ASCIT budget? Well then perhaps they will be more inclined to vote for a new treasurer.

Now onto the real question. How would such a policy be enforced? Some countries with mandatory voting have no real

consequences enforced, but even those countries see an increase in turnout over similar countries without mandatory voting. Other possible consequences include banning people from ASCIT events such as formal, charging extra ASCIT dues, or public shaming.

Indeed, we could take this a step further. One of the problems with the attitude of ambivalence towards ASCIT elections is a general lack of competition with many races going uncontested. One way to fix this would be to mandate that every member of the Caltech undergraduate population run for at least one ASCIT election during their four years at Caltech. This would fix the lack of contested elections, force people to know more about ASCIT (for example choosing a position to run for), and likely support Crayola sales with many more people needing to buy crayons to eat as part of their campaigning.

Now is any of this a good argument? Reasonable people may disagree. Nevertheless, the lack of voter turnout and general apathy about ASCIT are problems that need addressing, even if I am not the one to do it (after all I'm just a lowly Tech editor, not some political genius).

this space unintentionally left blank <3

Amazon Skymall

Welcome back to Amazon Skymall! In this column, we hold a raffle where we [not] randomly select one of our lucky readers and give them the item of their choice from these hand picked selections!

Enter this week's raffle by using the QR code or the link below:



WARNING: Consuming Lays Potato Chips can expose you to chemicals including [name of one or more chemicals], which is [are] known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov/food.

Also, opening the bag will significantly decrease your collectible chips' resale value.



Lays Potato Chips Fried Crab Flavor 金黃炒蟹味 70g (2 bags) \$14.47



Lays All Dressed Potato Chips Family Bag 235g/8.2oz (Shipped from Canada) \$12.87



Lays Potato Chips - India's Magic Masala, 52 grams (1.83 oz) (Pack of 2) - India - Vegetarian \$5.49



AZPantry Box Canadian Lays Ketchup Chips - 1 Family Size Bag - Comes in a Crush proof box. (Imported for Canada) \$9.94



Lays Midwest Inspired Fried Pickle with Ranch Flavored Potato Chips 7.75oz - 1 bag Currently unavailable. We don't know when or if this item will be back in stock.



Lays Wave Potato Chips 70g (pack of 2) 乐事 大波浪薯片 70g(2包) (Grilled Squid Flavor 铁板鱿鱼味) 70g \$24.99



Lays Chicken and Tomato Potato Chips, 165g/5.8 oz., [Imported from Canada] \$12.85

NO Free

Follow us on Instagram to keep up with story updates and exclusive content!

@thecaliforniatech

THE CALIFORNIA TECH LLM-FREE SINCE 2023!

The Huntington's New Homage to Nature



Mineo Mizuno, Homage to Nature, 2024. Photo: Elon Schoenholz/The Huntington Library, Art Museum, and Botanical Gardens

Emily Yu
Culture

On May 25, *Homage to Nature* was unveiled at The Huntington Library, Art Museum, and Botanical Gardens. Created by Mineo Mizuno, a California-based Japanese American artist, the sculpture appreciates wood in its natural state while highlighting related climate issues and ramifications.

Mizuno was born in Gifu Prefecture, Japan in 1944. He attended the Chouinard Art Institute in Los Angeles, which has been absorbed into the California Institute of the Arts, where he studied ceramics from 1966-1968. His work has been included in collections of institutions such as the Los Angeles County Museum of Art, the Art Institute of Chicago, and the Smithsonian. In Japan, his work has been exhibited in galleries such as the Shibuya Seibu Art Gallery in Tokyo and the Gallery Kasahara in Osaka. According to Mizuno's website, after having spent most of his life in urban areas, he is "now currently situated in the wilderness, miles away from society in the foothills of the Sierra Nevada Mountains in Northern California" where he draws inspiration for his work.

Commissioned by The Huntington, the sculpture measures approximately 16' x 12' x 13'. This immense work was made by using wood from the fallen trees of the Sierra Ne-

vada. Through the use of reclaimed timber, *Homage to Nature* prompts viewers to consider its capacity as a sustainable resource. In a press release, Robert Hori, Associate Director of Cultural Programs at The Huntington, stated that "*Homage to Nature* will quietly invite visitors to reflect on California's native woodlands and the active threat posed to them by climate change. The sculpture beautifully complements Mineo's other works at The Huntington and will inspire an interesting conversation about the connections between art and nature." His other works include *Nest* in the art gallery's loggia and *Komorebi - Light of Forests* and *Thousand Blossoms* inside the gallery.

Mizuno crafted this piece by utilizing the traditional Japanese technique of "yakisugi," which involves lightly charring the surface of wood for preservation. By using this technique, the reclaimed timber of the sculpture embodies the duality of fire. While devastating everything in its path, fire also allows an opportunity for the land to renew afterwards. As a juxtaposition, a "fire landscape" is displayed south of the sculpture, portraying growth following a fire.

Framed by the views of the San Gabriel Mountains, *Homage to Nature* is located in the Stroll Garden, just north of the Munger Research Center, and will remain on display for five years until May 25, 2029.

Who is *The Tech* and What Do We Stand For? (musings on editorial practices and content policy)

Eneko Arrizabalaga
Tech Editor-in-Chief
Editorial

In its current form, *The Tech* is fundamentally a student-run campus newspaper. This means we report on events that take place on and around Caltech through a distinctly Caltech lens. We strive to publish timely and exigent pieces about what's going on (but only in a very small corner of the world). We also have been known to publish slightly less-Caltech-related content (namely reviews of media), although even then, I feel the best review will be one through a Caltech lens. Is this a topic the Caltech community cares about? Is it being written about in a Caltech specific way? Is the Tech the best place for it? All these questions are important; after all, while I might be interested in hearing your thoughts on the best pasta shapes or how much you love the little queers in your favorite new book "A Memory Called Empire", I would take some convincing to publish articles about either of these topics. The Tech is not simply a broadcaster of all opinions that happen to come from Caltech students. All opinions are not created equal, and they should not be treated as such.

This brings us to the question of international news and more specifically, politics. After all, politics are often important to the members of the Caltech community, but this does not mean that *The Tech* should be a place for you to put all your opinions. While RFK's brain worm or the Boeing whistleblowers might be interesting news, they are not exactly relevant to Caltech. Potentially if you had done original report-

ing on these topics, it would be worthwhile to publish, but until the time that someone submits novel reporting on a major world event, I think I can safely ignore that. So, if you aren't doing original reporting, are you really going to be saying anything new? Now while I fully endorse you having opinions and even sharing opinions on these events, the Tech is just not the place for that.

The Tech is not a soapbox for you to declare your shower thoughts on the latest culture war, nor is it a bulletin board for your AI startup's press releases (despite the droves of them we receive by email). This is not to say I object to any opinion piece, merely that it ought to be related to Caltech in some manner.

For example, a mere rephrasing of reporting on student loan forgiveness is not newsworthy for *The Tech*. An article relating how student loan forgiveness would affect Caltech students or an opinion piece reflecting on your personal experiences with student loans at Caltech however would very much be in our purview.

Now if I'm being entirely honest, *The Tech* has published some stuff that I would rather we not have (if I'm being even more honest this includes some of my articles), but frankly we do not receive enough content to have the luxury of choice. This is not usually for lack of topics to write about but rather lack of reporters. It is in general easier to write low effort opinion articles or reviews than it is to track down sources to report on. So, if you find your opinion on a topic underrepresented, consider writing an article about it yourself. And if you disagree with this policy, feel free to write an article about that too!

Editors' Note

The opinions presented in the adjacent article are those of the Caltech Students for Justice in Palestine and do not represent the beliefs of the California Tech or its staff or editors. The Tech does not condone hate or any of the phobias. The Tech would like to remind its readers to be nice to each other.

We decided to publish this submission because it was the only one we've received on the topic of the Israel/Palestine conflict which brings a Caltech-centric perspective. We have carefully reviewed the content, and hope that this can be the beginning of a respectful and constructive discussion about the social and political responsibilities of the Institute and the community. Feel free to message the Tech editorial team at tech@caltech.edu.

Who are the SJP?

Students for Justice in Palestine (SJP) is a student-based organization in the US, Canada, and New Zealand. The national organization has existed since 2001 and the local Caltech subgroup has also existed for several years unofficially.

The national group has organized several demonstrations, walk outs, and protests about the 2023 Israel-Hamas war with general calls for colleges

to divest from Israel. They received fire from groups such as the Anti-Defamation League (a Jewish advocacy group) for endorsing the actions of Hamas (a terrorist group) in addition to certain members of the group calling for an end to the state of Israel.

Survivors of the October 7th attack are currently suing the national organization SJP for their alleged support of Hamas, calling them a "propaganda and recruiting wing" for Hamas. Some have also alleged links between the activities of the SJP and a rise in antisemitism. The SJP is not a nonprofit and receives funding from Westchester People's Action Committee (WESPAC) Foundation. WESPAC does not disclose information about its donors, but there have been no proven connections to Hamas.

The Caltech branch of the SJP has not been connected to these controversies and have not shown any direct support for Hamas or antisemitism. They attempted to register as a club with Caltech and had their application denied due to their connection with the national chapter and the national chapter's endorsement of the actions of Hamas.

—the Tech Editors

We are the engine of research at Caltech. But who is providing the fuel, and who is driving?

Caltech Students for Justice in Palestine
Opinion

Caltech and JPL are enmeshed financially, politically, and scientifically with Raytheon Technologies, a major weapons manufacturer which sells large amounts of weapons to the Israeli Defence Force. Raytheon's complicity with the Israeli state's murder of Palestinian civilians has been made clear by various international government bodies and human-rights watch groups.

Caltech and Raytheon

Caltech, and JPL which it manages, are world-renowned for invention and innovation, no doubt due to the diligence and brilliance of its researchers. These inventions include the pH meter, resonator gyroscopes, inertial sensors, microsatellite propulsion systems, long duration autonomous drones, human-machine interfaces for control of military robots, and some of the earliest US missiles and guidance systems. The development of many of these technologies has been funded from grants and donations by companies who have used these technologies in their products, including Raytheon Technologies.

Caltech and JPL have many connections to Raytheon Technologies, a prominent manufacturer of missiles, weapon targeting and radar systems, and battlefield communication systems. Raytheon currently funds the Center for Autonomous Systems and Technologies (CAST) at Caltech and since 2017 (Caltech Launches New Autonomous Systems Research Center, Caltech Weekly 2017), Raytheon has been under contract with JPL for a 5-year, \$150 million project to develop software and data systems (Raytheon wins contract to support Nasa's Jet Propulsion Laboratory, Aerospace Technology 2019). JPL also performs work for Raytheon on the GPS Next Generation Operational Control System (OCS) (SPACE ACT AGREEMENT 33889, 36173). This will provide more accurate positioning and anti-jamming capabilities to GPS, which is used by some guided weapons (GPS Next-Generation Operational Control System, Raytheon 2024).

The connections between Raytheon and Caltech/JPL go even beyond research collaborations and contracts: Dr. Lawrence Taylor, previously the President of Raytheon's Missile Systems, currently sits on Caltech's Board of Trustees, part of the body that "exercises all corporate powers of the Institute" under provision of the Institute's Bylaws. Ambassador Barbara Barrett also currently sits on Caltech's Board of Trustees, after serving on the Raytheon Board of Directors and as Air Force Secretary in the Trump Administration.

Their directive power partially accounts for Caltech's and JPL's provision of research, academic, and political labor for companies in the military industrial complex, such as Raytheon, that continue to produce deadlier weapons technologies employed by the IDF.

The IDF's use of Raytheon's Weapons

Raytheon is a major supplier of weapons to the Israeli Defense Forces (IDF). Since 2009 the IDF has launched multiple attacks on the Gaza Strip, armed by Raytheon bombs such as the "bunker buster" GBU-28 (Did U.S. give Israel 'bunker-busters'? Politico 2011; U.S. Sends Israel 2,000-Pound Bunker Buster Bombs for Gaza War, Wall Street Journal 2023). These bombs are dropped on the most densely populated area on the planet, in violation of international humanitarian law, with no concern for Palestinian life (U.S.-Made Weapons Used by Government of Israel in Violation of International Law and U.S. Law, Amnesty International 2024).

Raytheon provides weapon systems, components, and maintenance services to the Israeli Air Force's fleet of F-16 jets (RTX CORP, AFSC Investigate). The IDF employs the F-16 to drop these bombs on residential buildings, refugee camps, and the offices of international news organizations, including the Associated Press and Al Jazeera (Media demand Israel explain destruction of news offices, AP).

The Israeli state has implemented a total blockade of food, water, medications, and other vital supplies into Gaza (Israel: Starvation Used as Weapon of War in Gaza, Human Rights Watch 2023) This includes a naval blockade of supplies via the Mediterranean Sea - enforced by means of Raytheon's Phalanx CIMS weapons system installed on Israeli warships (Raytheon, The Mapping Project). Palestinian fishermen in Gaza are fired upon daily by these warships, to severely limit their available fishing areas (Israel navy fires at Palestinian fishermen off Gaza coast, Middle East Monitor 2022). To quote Dov Weisglass, an adviser to the former Prime Minister of Israel Ehud Olmert, "the idea is to put the Palestinians on a diet." (Israel forced to release study on Gaza blockade, BBC 2012).

Weapons purchased from Raytheon and additional companies such as Boeing, Northrop Grumman, and Lockheed Martin, have been used by the Israeli Defense Forces to kill more than 35 thousand Palestinians since October 8th, 2023. It was estimated that about 52% of these were women and children (Occupied Palestinian Territory, OCHA UN June 2024).

Reactions from the international community

Israel's use of said weapons in this way has drawn widespread condemnation from the international community. United Nations experts (U.N. expert says Israel has committed acts of genocide in Gaza, NPR 2024), Human Rights Watch (Israel: Starvation Used as Weapon of War in Gaza, Human Rights Watch 2024), and Amnesty International (Damning evidence of war crimes as Israeli attacks wipe out entire families in Gaza, Amnesty International 2023), have identified Israel's actions as war crimes.

Currently, Israel is facing charges of war crimes brought forth by South Africa in the

International Court of Justice (ICJ), and has been ordered to take measures to prevent what it considers a "plausible genocide".

Before this ruling, it was already a violation of the International Law Commission's (part of the UN's general assembly) Draft Articles on the Responsibility of States for Internationally Wrongful Acts. But the ruling falls under the Genocide Convention which prohibits both the commission and complicity in genocide.

In the absence of Israel following through with those measures, which include a binding United Nations Security Council resolution calling for the cessation of hostilities, the International Criminal Court (ICC) may arrest Netanyahu and other top officials of the Israeli regime, as well as charge states complicit in the sale of weapons to Israel later. (War crimes prosecutor seeks arrest of Israeli and Hamas leaders, including Netanyahu, AP 2024).

Who is Driving Caltech?

Regardless of one's research area, members of the Caltech and JPL community are contributing our minds and energy to an Institution that is quietly, yet complicitly enmeshed with the military industrial complex - an economical sector that fabulates profits off developing and providing the means for genocide of the Palestinian people. As scientists, most of us have both a desire, and a duty to ensure that our research is used for the benefit of humanity - "The World Needs Caltech", as agreed to by our Trustees. The world is not in need of our labor to produce the means of profit for a company that facilitates the IDF's bombing of Palestinian refugees living in tents in Rafah. We are the engine of research at Caltech, and we want to know: who exactly is providing fuel, and who is driving Caltech?

A Profile on Professor Joe Kirschvink



Lily Coffin
Humans of Caltech

The Geologic and Planetary Sciences division fleet rolls out of Arms Circle bright and early on a Friday morning. The fleet is destined to traverse the great American Southwest for the weekend, and 30 lucky students are buzzing with the promise of adventures to come. Once a term, every term, the students of the Ge 136 class set out to earn 3 units exploring the geologic wonders right in Caltech's backyard. All that is required in exchange, is a short presentation from each student on a topic relevant to the planned route.

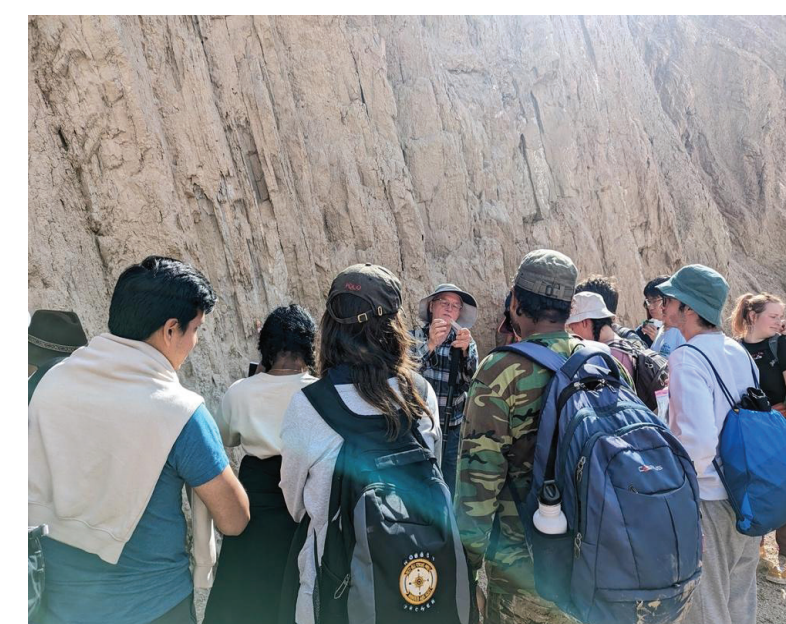
Those who choose this path are not looking for comfort. Whether the destination is the mountains of Northern Nevada in November or Utah in the spring, the only accommodation provided is a nice flat spot on the ground, and a camp toilet (if you're lucky). The students have to cook their own food, often in the dark when the fleet rolls into camp late after an unplanned stop for interesting sights, or a broken-down car. What is it about this class that tempts so many worn down undergraduates to forfeit a restful weekend for such discomfort?

Professor Joe Kirschvink is the man behind the madness. Despite the sacred white oak cane he carries around to help with his partially crippled foot, Kirschvink, dressed in his every-day uniform of jeans and a flannel shirt marches swiftly into the field with a timeless exuberance. With a slightly croaky voice, Kirschvink projects to the large group when there is something interesting to be learned about the surrounding rock formations. Kirschvink grew up in Arizona and fostered a love of the American Southwest that has translated into the fiber of Ge 136: Regional Field Geology of the Southwestern United States. Following the tradition of Bob Sharp, Kirschvink is committed to inspiring students to love the outdoors in this unorthodox learning community. Right before every departure, Kirschvink reminds everyone that Sharp created the class, and his methodology remains incredibly effective at teaching students about the geology around them in a way that makes it stick. "I went on every one of Bob Sharp's trips that I could while I was here... Intellectually stimulating as the geology was, but the students were presenting," said Kirschvink. Kirschvink started his academic career at Caltech, earning his B.S. in biology and M.S. in geology in 1975. Despite their shared legacy of Ge 136, Kirschvink shared that he did

not consider Sharp to be a mentor during his time at Caltech. Instead, Kirschvink considered Professors Heinz Lowenstam and Eugene Shoemaker to be his leading influences. Professor Lowenstam was a German immigrant who was denied a PhD in Munich for being a Jew in Nazi Germany, Kirschvink told me with an exasperated roll of his eyes. Professor Shoemaker introduced Kirschvink to the wonderful world of biogenic magnetite, which became a focus of his career. According to Kirschvink, "I came to Caltech naive...Jean Shoemaker changed the course of my life." In 1997, Professor Shoemaker lost his life in a high velocity automobile crash in Australia. The experience of losing a mentor "was like having your stomach ripped out, or losing a piece of your brain," said Kirschvink.

Just as Kirschvink carries on the legacy of Bob Sharp in Ge 136, he also infuses the legacy of the incredible mentors that shaped his own career. From packing a bulging duffel of extra layers for every trip, to shaking tents in the morning to make sure no one falls behind schedule, Kirschvink does his best to make sure everyone is taken care of. In the event of car trouble or another emergency, Joe's extensive experience leading field excursions both in research expeditions and in his other classes every term enables him to take any challenges that arise in stride. Take for example the time that a vehicle wouldn't start, and before anybody could grab the jumper cables, Kirschvink had the students lined up rocking the car back and forth. Sure enough, the jammed transmission settled into park, and the car started just like new.

In Confusion Canyon of the Confidence Hills in Death Valley, the Bishop tuff layer in the stratigraphic record is exposed. A short hike off the beaten path lies the sampling site of foundational work on the bishop ash done by Caltech Geologists. After incurring minor casual-



ties crossing a small, muddy river, a recent 136 trip revisited the site and recovered an old tag that had been nailed into the outcrop. Students gathered around closely, listening intently to Professor Kirschvink while he taught them about the study and its significance. "It was a rare moment of intellectual excitement - totally worth walking two miles in muddy wet shoes," said Matteo Kimura, sophomore in the applied math department.

After a long day in the field, the group returns to home base to prepare dinner and rest up for the long day that lies ahead. By this time the air has usually grown cold, but the promise of a warm dinner to combat the chill is enough to motivate campers to get cooking in the camp kitchen. Around the campfire, Kirschvink leads a name game where worst nightmares, fun facts, dreams and superpowers are shared and camaraderie is enjoyed. It requires a special kind of person to unite a group of 30 strangers and make them glad to be together. That is the magic that keeps students returning term after term, even when catching up on sleep or getting ahead on sets may be more convenient.

Professor Kirschvink offers Ge 136abc for the fall, winter, and spring terms year after year and many students are repeat participants. In addition to Ge 136, Kirschvink also teaches Introduction to Earth and Planetary Sciences: Earth and the Biosphere (Ge

11/101b) and Paleomagnetism and Magnetostratigraphy (Ge 124ab). What may be difficult to guess from his loaded course schedule, is that Kirschvink commutes to the United States from Japan once every term to host field trips for each of his classes. With his family in Japan, Kirschvink lives part time in the US and part time in Japan, while still making time to make discoveries in new and exciting corners of the world.

When it is finally time to head back to campus, one final Ge 136 tradition must be executed at the very last stop. A call to the deity Seisamolani must be made as a group. As everyone forms a large circle, Professor Kirschvink recounts the origins of his sacred white oak cane. While visiting a temple in Shikoku, Japan, with his son for a school trip, the branch of a white oak tree was gifted to him by a monk. This is thought to be the most spiritual tree in Japan, and thus became his tie to the spirit world. The tradition pays homage to Bob Sharp's connection to Seisamolani, goddess of earthquakes. With the hope Seisamolani will respond with a quake, everyone in the circle joins hands and jumps once in unison with a firm "move!" And though this has never worked before, the students still have faith that Professor Joe Kirschvink really could shake the Earth if he put his mind to it.

ers his greatest contribution to science is the discovery of biogenic magnetite in the human brain. Microbes and other animals have been proven by Kirschvink to use magnetosomes, which are organelles inside cells capable of sensing magnetic fields, to navigate based on the Earth's magnetic field. Later, he found these same magnetosomes in human brains and further studies have shown that human brain waves are affected by changes in magnetic fields. However, journals refuse to publish these findings because peer reviewers are adamant it cannot be possible. It is clear that what Kirschvink is after is not prestige, but discovery.

The propensity for thinking outside of the box has been the driver for many foundational discoveries in geology, and Kirschvink aims to inspire his students in Ge 11/101b to strive for out of the box thinking. "Joe is one of the professors who I will remember well beyond leaving campus," said Megan Robertson, senior in geochemistry. She recalls that, "In Ge 11b, he facilitates a project, called the nut paper, in which a student has to investigate a nutty idea in Geobiology. So much of the field has come about through insane ideas which were not initially recognized, and that was the intention of this project: to show that, although something can be wild and fantastical, with thorough investigation, it can be shown that there is a possibility of its validity."

Kirschvink self-proclaims, "I tend to do things that upset people," especially when it comes to publishing controversial ideas with little support from the academic community. In 1992, Kirschvink published a two-page concept paper entitled *Late Proterozoic Low Latitude Glaciation: The Snowball Earth*. This paper coined the phrase "Snowball Earth," which may have been unpopular at the time but is now considered a classic discovery. The theory suggests that when continents are at low latitudes, the weathering of silicate rocks depletes carbon dioxide in the atmosphere which has a cooling effect. The cooled atmosphere yields more



snow which reflects solar radiation and further cools the atmosphere until the whole planet is covered in ice. Once Earth is frozen over, there is no weathering of silicate rocks to deplete carbon dioxide, so it accumulates through volcanic activity until the atmosphere rewarms. This idea has provided an important calibration point for climate models and enabled great strides in climate science. Kirschvink does not boast about this discovery: "I just stumbled into it," he says. What Kirschvink consid-

All photos provided by Lily Coffin.

EAS' Cultural Facelift: Introducing the Graduate Student Advisory Board

Zachary Ahmad
The Inside World

As a hub of innovation and discovery, the Division of Engineering and Applied Science (EAS) at Caltech is continually evolving. Caltech offers an array of resources to support its students, however, a challenge often lies in the awareness and accessibility of these resources. The structure of EAS Division fosters independence, which often leads to an unintentional disconnect between departments, restricting the exchange of resources and information. This is why I am excited to introduce the EAS Graduate Student Advisory Board (GSAB), a proactive initiative aimed at bridging these gaps and cultivating a unified EAS community culture which will enhance the educational experience for all its members.

The GSAB consists of at least one Representative from each of EAS's departments, with Representatives actively involved in other major student organizations on campus.* This diversity ensures that our initiatives do not risk "reinventing the wheel" by duplicating initiatives or events from these organizations or from the individual departments themselves.

Each Representative acts as a liaison for the students in their respective department and reports back to GSAB with student feedback, and departmental concerns and goals.

GSAB is not just another committee; it is a strategic alliance designed to integrate student perspectives into the fabric of EAS programs and policies. Unlike most other student organizations, GSAB operates independently from the Office of Student Experience. GSAB cannot request funds from Associated Students of the California Institute of Technology (AS-CIT) or the Graduate Student Council (GSC). Instead, we are directly supported by the EAS Division, which ensures that we can focus on long-term strategic goals without the constraints of traditional funding structures.

Having said this, a delicate balance arises by working in such close structural proximity with EAS administration. By allowing the chair of GSAB (who is the chief intermediary between the Director of EAS Programs for Student Success [DPSS] and GSAB) to serve as a non-voting member of the board, conflicts of interest from administrative standpoints are effectively minimized. The chair of GSAB may express a

firmly held opinion, but ultimately, it is the GSAB Representatives, acting on behalf of their constituents, that vote on suggestions to the division. This unique structure helps us to navigate and bridge administrative and student perspectives, fostering a collaborative environment that respects and integrates student voices in divisional decision-making. Our goals are further strengthened by working in close cooperation with the individual option representatives and option managers of each EAS department to address issues as they arise.

In addition to GSAB's culture-centric goals, we also aim to address potential gaps in student advocacy and communication that might arise during the time it will take to finalize the union contract with administration. It is likely that the GSC will undergo significant restructuring during this time. While it is the hope of GSAB that student needs will be attended by the appropriate channels during this time of transition, it is essential that we provide a robust support framework for students in EAS during the interregnum that focuses on compiling and streamlining the resources that Caltech already offers. Our goal is to then communicate with Caltech's union and GSC rep-

resentatives to incorporate any resources and/or benefits they establish.

Over the next few months, our inaugural board will be planning several events, including a student-faculty mixer which plans to bring faculty members from all EAS departments together with students to get to know one another and simply have a drink and unwind. More frequent events of this type serve to create a more collaborative, interdisciplinary environment within EAS and hopefully beyond. As we spearhead this renaissance within EAS, aimed at enriching not only our academic pursuits but our communal bonds, your engagement is key to our collective success. Your insights, your participation, and your voice are crucial to realizing the vision of an interconnected, supportive community that mirrors our academic excellence. Please visit our webpage at <https://www.eas.caltech.edu/resources/eas-programs-for-student-success/gsab> or use the QR code to learn more about GSAB, offer feedback, or voice a concern.

We are committed to transforming how EAS connects, collaborates, and innovates, ensuring Caltech remains a leader in both scientific achievement

and student satisfaction. Thank you for your support, and I look forward to making a lasting impact together!

*Note: While we aim to have a representative from each department, currently, we do not have a representative from Environmental Engineering. Due to its interdisciplinary nature and smaller size, this option is housed within the Division of Geological and Planetary Sciences, which presents additional layers for representation. We are actively working to ensure that Environmental Engineering will have representation in the near future.



Meet the People of Red Door: Deveon Howard

Damian Wilson
Humans of Caltech

Red Door, the campus café so inextricable from Caltech existence that it requires no introduction. How, then, to reward this introduction for the fourth entry in this series? As part of an ongoing effort to make the voices of Red Door staff heard in *The California Tech*, ensuing something of a hiatus in recent issues, the following interview was conducted with Deveon Howard, the Assistant Manager of Red Door.

Lovely to meet you, Deveon! If I may begin, how did you come to join Caltech's most cherished ruby-doored café?

I actually worked through a third-party company, Quick, and worked in Browne a lot; I was asked if I wanted to join the company through the higher-ups. I joined the team and they put me at Red Door. I was working here two years prior through Quick and used to be in Browne helping cook. I would say I started working for Caltech in 2021. Through 2022, I was working through Quick during that experience. I was hired in March 2023. One year later, I got promoted. It only took me a year! 2023, I was a cook; 2024, I was a manager.

How was the transition in your responsibilities?

It's a big transition because I'm now the Assistant Manager of Red Door. Now, it's a totally different job. I used to be a cook, so now it's a lot to hold. I have to fill some shoes, following my old managers. But it's pretty straight-

forward: simple food, nothing too complicated. The students are very calm and cool; they're not rowdy.

What do you find most challenging about the position?

That's a good question. What I find most challenging right now is the late hours: getting everyone to come in at a different time. Basically, closing is easier but the late hours are harder. That's the most challenging part, the third shift. (We have three shifts: an AM shift, a PM shift, and a late-night shift lasting until 3:30.) A lot of people don't like those hours, so we have to find dependable workers.

How do you like interacting with the Caltech community?

I think the students are pretty witty here. Very respectful. A lot of people are very self-kept here. As I said, you guys aren't rowdy. And it's a college, so I'm surprised about that. People are very humble here. I haven't found many outspoken people—everyone seems in their shells—so I like that. I like the fact that you have your youthfulness still. You're not above your age range; you can tell that on certain people, all of you guys act like your age. Very school-witty and on top of your studies. Not too much chaos!

Any particular opinions on campus food and dining policies? What changes would you want to see?

Yeah, I would like to make the menu better. But right now, if it's not broken, don't fix it. If we take it away, some students complain, as far as the Food

Committee goes. So we don't make big changes because we want to make sure we get approval from the students first. But I would definitely like to make some better changes. Easier for us and better for y'all: better food, better ingredients. This isn't Papa Johns. We want to change it up: we've been doing the same menu, I think, for three years or more.

How has your Red Door experience changed since you started?

A lot of people are worried about [Red Door] not being in a position to grow, but it's a lot of space. I've seen a lot of my coworkers get promoted within the company, and I've also gotten promoted within the company being with it only for one year. So it definitely has some upsizing to do. You know, like I said, I started as a Quick person and became a cook here and then Manager. I took at least three big steps. We're finding new workers, but at the same time, we still have a lot of old workers here. We still have a lot of veterans. It's just bringing new people here and getting them used to the environment, getting used to your guys. Other than that, it's been pretty much the same.

Do you have a favorite part of the job?

It's not micromanaged. We have a lot of freedom to express ourselves and talk to our employees. You know, we're not shadowed by our managers—they're not hovering over us—so I definitely love the free-space environment. It gives us a great opportunity to grow in our job and to learn.

And, of course: What's your favorite item on the menu? What do you wish were on the menu?

I'm vegan, so I'd have to say the Red Tofu Sandwich. I think the biggest item is the Turkey Avocado.



Deveon, the Assistant Manager of Red Door. (Credit: Damian Wilson)

Anything you'd like to sign off with?

I appreciate the students for being very respectful, and I also appreciate their parents for raising them to be humble individuals—for sure. I've only had one experience with a student being too vocal or obnoxious, where we have to get security involved. But that's rare. You guys are very well-raised.

Thank you so much for your time tonight, Deveon! You and the other hardworking staff at Red Door deserve all the appreciation in the world.

This interview has been edited for length and clarity.

Sitting Down with Mellow Drama

William Feasey
Humans of Caltech

Verse 1

Caltech isn't particularly accustomed to non-academic drama; just take a look at this edition's front page. Mellow Drama, however, is a Caltech quintet, setting out to prove that we could all do with just a little bit of rock and roll lighting up our music scene.

Sylvia Plath observed that 'melodrama thrives solely upon exaggeration'. Well, to avoid the artistic cynicism of Plath, and to not cramp the style of Lorde's second album, the group drew on their more relaxed musical aesthetic: enter Mellow Drama. Since then, the band has continued to climb the octaves, with a packed rec-room show already under their belt, and a slew of originals coming thick and fast, Mellow Drama is not to be missed (see end of article for next-gig deets!)

Through a Caltech-tinted lens, one might clock Mellow Drama's slightly edgy band members, quirky assortment of sounds, and a prolific talent for graphic design (@mellow.drama.band). With my interest piqued, and a Tech deadline looming, I put aside my musical-ineptitude and set about trying to understand what makes Mellow Drama's beat, tick. What follows is a series of un-astute, but rather dazzled tales from their first concert, and a subsequent behind-the-scenes account of a rehearsal I was invited to eavesdrop on. I only ask twice of you, dear reader: I hope you will excuse any musical inaccuracy that I will almost certainly make throughout and I hope you take away even a small fraction of the glee I had in listening to—and getting to know—the band.

Verse 2

As the shutters of winter term drew to a close, the Mellow Drama quintet assembled bright and bubbly in Caltech's premier studio for up-and-coming music talent, the Catalina apartments' North

Recreation Room. Their Instagram-announced promise? 'To blow our socks off, and thus make them cold' — a tall order for an LA-based band.

Thomas looked sharp as the point-man, sporting blue collar overalls with a white-collar bowtie. The boys with strings contested for the most musically hardcore by tally of most guitars flaunted (my count: Ray's 3 to Liam's 2!). For Tal looking fresh was operative, a minty green shirt and a brand new drum kit setting the tone. Finally, Elina stood poised over the keys, leather jacket mandatory. Nervous static filled the room, anticipation heightened as if waiting for the *Californian spring rains*. And then, at a goldilocks time of 8:12pm, Mellow Drama sprung to life. Kilby Girl to kick us off, a beautiful song, with star moments for all. Thomas' delicate control over the opening verse, led swiftly to a full frontal rec-room roaring chorus, even managing to draw a few head-bobs from the on-looking Caltech crowd.

From one song to another, Mellow Drama danced impressively, keeping the crowd on its toes. The group wasted little time in drawing out one of its strengths, a band-wide talent for songwriting. Ray's original, *Loose Screws*, quickly seduced the airwaves, with Thomas showing impressive variation in vocal scope from the tricky jumps of Kilby girl to the harmonious tones of this number. And when you thought the conforming bliss couldn't end, in burst Tal, delivering a skilled and punch flourish on the drums to round off the number.

With the band on a roll, Mellow Drama looked to follow their namesake, subverting the status quo of the concert thus far, and shifting into a slow harmonious single, *Helplessly Hoping*. Exuding shades of Simon and Garfunkel, each pair diving in and around one another. Despite a little more than a couple month's practice, Mellow Drama's inherent chemistry was plain for all to see.

Tal's original, *Open Door*, took the crowd by surprise. The first section proved to be Elina's

triumph, driving forward the melody with unwavering quirk. Then the arrival of Tal warmed the pot; energy driving up and away; Ray's tash appearing to detach and swim in time with his personal syncopation. The song's success clearly gave Tal optimism for his future work, since it would only be a few weeks later that I was sat in the studio, listening him flesh out his follow-up hit.

The finale came two fold: first an underground song, which promised 'to be a crowd favourite (for those who know it)'. For those with a musical ear, Liam had been dictating the bass firmly throughout the night. But for the rest of us mere mortals, the final number saw him come alive, as he revelled in a game of beat Tiki-taka across the stage. The song concluded, and Mellow Drama certainly had a new crowd favourite. The encore was also 'underground', this time to the tune of Dua Lipa's 'Levitating'. Needless to say the crowd loved it, and the dance-deprived Caltech students finally felt free to diversify from the rock and roll 'bob' to the Tik-Tok 'swerve'.

I tried to catch up with the band after their performance, as they radiated a smorgasbord of emotions; joy, pizzazz, honest surprise at how much people had enjoyed their set. I told them I hoped this would be their first rapturous applause of many, and decided any remaining investigative journalism could wait another day.

Verse 3

My journey led me to the bunkers of Fleming house, where our fabulous five take jamming to their favourite 'underground' songs quite literally. Sensing my enjoyment from their first round performance, the band very kindly offered to have me crash one of said sessions. But this session wasn't any old *Trader Joe's* jam; instead, Tal was pitching a new number — *Coming Back to Life* — to the group, with the only audience yet to hear the tune being Tal's shower room.

It is quite difficult to describe the energy — the verve — that is created during one of Mel-



Left to right Liam (Bass), Tal (drums), Ray (guitar), Thomas (Vocals), Elina (keys), stared down a rather finals-whipped Caltech audience. Photo: @mellow.drama_band

low Drama's sessions: a 1000 mediocre words of California Tech writing certainly won't do it justice. But to try and ground it in something many of our Graduate readers will know and love (/dread) all too well, you can picture it something like a research group meeting.

Enter Tal (ambitious young mathematical mind): it's super simple guys ... notice the time signature: think e-over-pi - completely irrational'. He's met with an initial front of confusion from the rest of his band, prompting a furious scribble on the whiteboard as he tries to explain his grand vision for the chords. And then, just like that, the intellectual penny drops, as the five fire new ideas, harmonies and counter-melodies all around; a musical hivemind descends on the room. Tal shifts from exacerbated student to a proud little conductor. Elina, the principal investigator of the group, reacts like any good PI: 'I like to be lazy, take it just down the C, actually.' As the rigorous debate continues to rage, Thomas takes on the role of lab wise-crack. A spontaneous 'tweet tweet' to break moments of lull, or the occasionally encouraging, 'you're like an artist who can't paint', help keep any group drama loving and mellow.

Our fourth member, the prodigious student, Ray, sways quietly in the corner. Bar a subtle sounding of notes or an occasional tilt of his glasses, you'd be forgiven for mistaking him absent. And then, just when the tune is beginning to hold water, in he jumps, excruciatingly executing a finger-splitting chord to the result of a rather beautiful tune. The band approves - 'I don't know how he does this magic, but it is magic', Tal would tell me later. And yet they still want to push their friend: 'spice it up' and 'make it harder!', echo Tal and Liam in unison.

Now they're really on a roll. 'It's giving Whitney Houston, but more jazzy', Tal quips, '... Whitney New Orleans, no, Whitney Austin'. Liam, on bass, begins to join the show. Like any good bassist worth his salt, he bides his time: 'I don't like songs where bass mirrors everything; I want to bring it all together, pull the strings taught.' Armed with his trusty loop pedal, low and slow he begins to exercise himself over the song's foundations, resonance and harmony galore.

Sensing things are going too well, inspired by genius, Tal sets out to 'mess it all up'. 'Four notes, figure them out,' he asks of Elina. Yet she more than finds the magic, wielding a major 7th chord and giving Tal the opportunity to exclaim his best praise yet, 'yes yes yes yes!'. With the tune at its peak, Thomas finally allows himself to peek at his lines. Tal is hoping 'to make him work pretty hard with this', yet Thomas looks unphased, remarking the lyrics remind him 'of that Jewish mouse that comes to America'. Touched by the sentiment, Ray takes a momentary break from his craft, and plays the Fievel Mousekewitz theme tune. The final flourishes descend on the tune, minor skirmishes breaking out on the state of a minor 7th b flat chord - 'no no it's just modulation,' clarifies Liam. I'll take his word for it.

'Let's run it'. Thomas assumes centre stage, promising me to have some moves for next time I see it. You know what comes next? Sure you do - it's just like in all the movies, 'a one, a two, ...!' Verse leads to chorus, to a bridge, then a final chorus, fin. Almost miraculously, in what is a little over an hour, Tal has managed to take his little earworm and pull together something you'd pay more than a dollar to listen to on iTunes. As their first full run draws to a close, I'm a little lost on how to express my love for the song I've just heard. Luckily, a much more musically licensed talent in Ray manages to summarise my thoughts perfectly, 'Tal, this is really, really fucking good.'

Meeting Mellow Drama has proved a mighty adventure, and I thank them for their patience, fun and for five new and friendly faces that I'll bump into most days at Red Door. Many of us might take it for granted, but Caltech is a little special like that. Mellow Drama played their hotly anticipated second gig on the evening of May 24th. For all the details, all the rage, follow @mellow.drama_band.

While there may be no drama on demand, don't miss the magic of Mellow Drama; there's some serious talent at the Tech.



Photo: @mellow.drama_band

The California Tech

Journalistic Principles

The News-Opinion divide

All articles shall be clearly and explicitly labeled as either News or Opinion/Editorial.

News articles report on topics that have been thoroughly researched by Tech staff writers, and should be impartial to any one point of view. In a News article, the writer shall not insert their own personal feelings on the matter; the purpose is to let the facts speak for themselves. The Tech assumes full responsibility for all content published as News.

In contrast, Opinion articles (including Letters to the Editor) may be written and submitted by anyone on any topic; while the Tech will edit all published Opinions to ensure no wrong or misleading information, we do not otherwise interfere. Again, the role of the Tech here is to help the whole campus communicate their ideas and share their stories, not promote specific ones. Content published as Opinions do not necessarily represent the values of the Tech or our staff.

An exception to this is Editorials, which are written by Tech staff and represent official opinions of the Tech. Any information and sources in Editorials shall be held to the same standard as News reports, but there is no promise or expectation of impartial coverage.

Fair Reporting

All facts of major significance and relevance to an article shall be sought out and included.

If an assertion is made by a source about a specific person or organization, they shall be contacted and given a reasonable amount of time to respond before publication. In other words, no second-hand information or hearsay shall stand on its own.

Quotes and Attribution of Information

Facts and quotes that were not collected directly by Tech reporters shall be attributed. Articles shall clearly differentiate between what a reporter saw and heard first-hand vs. what a reporter obtained from other sources.

Sources' opinions are just that — opinions. Expert opinions are certainly given more weight, as are witness opinions. But whenever possible, the Tech shall report facts, or at least corroborate the opinions. A reporter's observations at a scene are considered facts for the purposes of a story.

Sources

All sources shall be treated with respect and integrity. When speaking with sources, we shall identify ourselves as Tech reporters and clarify why we would like to hold an interview. Sources for the Tech will never be surprised to see their name published.

In published content, we shall put our sources' quotes into context, and — as appropriate — clarify what question was being answered.

We always ask that a source speak with us on the record for the sake of journalistic integrity. We want our audience to receive information that is credible and useful to them. Named sources are more trustworthy than unnamed sources because, by definition, unnamed sources will not publicly stand by their statements.

That being said, we realize that some sources are unwilling to reveal their identities publicly when it could jeopardize their safety or livelihood. Even in those cases, it is essential that the Tech Editor-in-Chief knows the identity of the source in question. Otherwise, there can be no certainty about whether the source and their quotes were falsified.

This also applies for Letters to the Editor and Opinion submissions to the Tech. If the author requests that their piece be published anonymously, they must provide a reason, and we shall consider it in appropriate circumstances. No truly anonymous submissions shall be published. Conversely, no submissions shall be published with the author's name without their consent. When we choose not to identify a source by their full name, the article shall explain to readers why.

Corrections Policy

We strive for promptness in correcting all errors in all published content. We shall tell readers, as clearly and quickly as possible, what was wrong and what is correct.

Corrections to articles will be immediately updated on the online version of the Tech at tech.caltech.edu. If appropriate, corrections will also be published in the following Tech print issue.

Honor Code Applies

In any remaining absence of clarity, the Honor Code is the guiding principle.

The California Tech

#12

CalGuesser

Every issue we'll show you a different location on campus. Find the place and find the QR code hidden there to sign the log book and **win a fabulous prize?!?!!**



Last issue's winners!

CalGuesser #11 – May 17, 2024

Congrats, you found it!!!

Leave your name/pseudonym, year/department, and date found!

Daniel Wen, 2024 CS, 5/17/24

pranav patil, 2024 computer science big shot found it second some athlete was here before me! must be off-season or smth (5/17/24 ThePotatoman, 5/17/24

Ali Niazi, BioE, 5/17/24

KevinK, 1993/E&AS, 05/18/24

Alexi Stapf, MechE, 05/17/24

Jabri, MechE, 05/19/24 con la leche todo es posible

caca en tu boca

Axel Haydt, MechE, 05/24/24

Terence, March, Edward, 5/25/24. medical engineering department go protractors wrested evil, local dad, 26MAY24

The California Tech Sponsored Workout #2 – Techxercises

Eneko Arrizabalaga Category

As your friendly neighborhood former Dabney Athman, I have a great passion for trying to get people to go to the gym. As part of these efforts, I would like to give you a nice example workout. And guess what? Today is leg day!

Squats

- A great leg exercise you can do either with weight or with a copy of your favorite campus publication, The California Tech.

Lunges

- While you're doing lunges, picture yourself lunging towards the journalistic integrity and principles we here at The Tech are always striving for.

Leg Curls

- Drop a copy of The Tech on the floor beneath your bench to entertain you as you workout your legs.

Step-Ups

- As you step upwards, imagine yourself stepping up to the plate to write articles for The Tech. Think of how much cooler you would be if you were getting paid 4 cents a word to contribute to Caltech's oldest campus newspaper.

Warm Up:

- 0.25 mile jog
- 1min jump rope

Circuit (do each exercise, rest then repeat x4):

- 10 Squats
- 10 Lunges
- 8 Leg Curls
- 20 Step-Ups

Cool Down:

- Do some static stretches to cool down, then grab a copy of The Tech and read through it for good measure.

The California Tech

EDITORS-IN-CHIEF

Michael Gutierrez Eneko Arrizabalaga

MANAGING EDITORS

Maxwell Montemayor Victoria Davis

PRODUCTION MANAGER

Alanna Yelland

STAFF WRITERS

Damian Wilson Emily Yu Sophie Elam

BUSINESS MANAGERS

Jack Myles Nora Xiao

ADVISOR

Richard Kipling

The California Tech aims to publish biweekly 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; email submissions to tech@caltech.edu, or submit them on our Discord server (<https://discord.gg/Zaah8749s2>). 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 12 PM on 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.