

The California Tech

VOL. CXXIX No. 10

PASADENA, CALIFORNIA

TUESDAY, APRIL 7, 2026

ME 72's "Apex Cleanup": Caltech's Ultimate Design Showdown

Camilla Fezzi
The Inside World

By the time the doors opened at Scott Brown Gym on March 10, the students of Caltech's ME 72 capstone course had already spent months living inside the problem. For roughly 15 weeks, teams of mechanical and civil engineering undergraduates had designed, machined, wired, coded, tested, broken, repaired, and rebuilt robots for one public reckoning: the 41st Annual ME 72 Engineering Design Competition. When the machines finally rolled onto the floor, the question was no longer whether the ideas were clever. It was whether they would work under pressure.

If you have never heard of ME 72, that is a shame, because the course is one of Caltech's most serious and revealing traditions. It is not an extracurricular showcase or a résumé ornament. It is the Institute's mechanical engineering capstone: a two-term design sequence in which third- and fourth-year students are pushed through the entire engineering cycle, from concept development and analysis to fabrication, testing, integration, and competitive performance. As instructor Michael Mello put it, every mechanical engineering program needs a capstone; at Caltech, ME 72 is that final exam. It just happens to involve robots.

This year's challenge, "Apex Cleanup: Summit, Mint, Bank," centered on a steel-skinned pyramid planted at the center of a 40-foot-square field. The structure stood four feet tall, with faces pitched at 37 degrees and a narrow 3-by-3-foot summit deck at the top. Robots had to climb those inclined steel faces, crest the summit, and operate on the platform under competitive pressure from other teams doing the same. The pyramid was not just scenery; it defined the entire match.

The game's scoring system made the pyramid even more central. Teams collected Hot Pellets from the arena floor and transported them upward. Pellets deposited at the summit were converted into Energy Credits, which rolled back down toward floor-level Vaults, where they could be banked for points. Teams could also intercept those returning Energy Credits for bonus points, provided they banked them successfully. There was a lower-risk, lower-value ground



2025 - 2026

route through Depot processing, but the summit offered the biggest rewards. In this game, the climb was where the points lived.

Each match lasted four minutes and thirty seconds and began with a 30-second autonomous period, during which robots operated on pre-programmed logic before the teleoperated phase began. Three teams competed in each face-off, and each team could field up to two robots at once, meaning the arena could fill with as many as six machines jostling for pellets, space, and position. The design challenge was not merely to build a robot that could climb once, but to create a system that could repeatedly ascend, crest, score, descend, survive contact, and do it all again under tournament conditions.

That made the engineering problem brutally honest. A 37-degree steel incline demanded traction, torque, stability, and disciplined geometry. Cresting the top required careful control and clearance management. Descending safely mattered almost as much as climbing. Meanwhile, field congestion and repeated physical interaction forced teams to consider durability, compact packaging, motor load, and systems integration. Students fabricated custom chassis and mechanisms using precision machining and additive manufacturing, then integrated mo-

tors, sensors, electronics, and embedded control systems into robots that had to function reliably in chaos.

The work took place largely in the Jim Hall Design and Prototyping Lab, in the subbasement of the Eudora Hull Spalding Laboratory of Engineering, under the supervision of co-instructor Paul Stovall and lab machining assistant Trent Wilson. Former ME 72 students returned as teaching assistants and peer mentors, while current teams put in late nights refining mechanisms and troubleshooting integration failures. By competition morning, the gym was already alive with the whir of motors, the clatter of tools, and the quick, anxious glances of teams watching their rivals test movement across the field.

Six teams lined up for this year's contest, each with a name that sounded less like a class project and more like either a rock band or a cry for help. There was Big Red — Joshua Braun, Alexander Crowley, Ethan Hamel, Axel Haydt, Raymond Provost, Alexi Stapf, and Marissa Till — a team name that suggests confidence, menace, or possibly both, and the representation of Fleming house. The Clanks — Kevin Chung, Jorge Elias, Brandon Franco, Carlos Olivas, and Alexis Zuniga Diaz — at least had the honesty to brand themselves with the sound every mechanical

continued on page 2

Nature Astronomy Study Demonstrates Feasibility of Orbiting Starshade for Ground-Based Exoplanet Imaging

Ahmed Mohamed Soliman
Science & Tech

Continuing what we discussed in the [previous article](#) ("Can we detect an Earth-like-Exoplanet orbiting a Sun-like-Star for signs of life?," *The California Tech*, November 12, 2024), we have published a new study in *Nature Astronomy* and was selected for [the March cover issue](#) of that journal. This study demonstrates the feasibility of directly imaging a Solar System analogue around a nearby star by deploying a space-based starshade in orbit at 170,000 km, to produce an almost perfect shadow across the apertures of Earth's largest large ground-based telescopes currently under construction. This published paper combines wonderful authors from all over the world, including the 2006 Nobel Laureate John Mather and the 2019 Nobel Laureate Michel Mayor. This study supports NASA's NIAC-funded [Hybrid Observatory for Earth-](#)

[like Exoplanets](#) project, initiated and led by John Mather of the NASA Goddard Space Flight Center.

Our *Nature Astronomy* paper establishes the foundational analysis of key challenges by demonstrating how this idea can be used to observe Earth-like exoplanets from large ground-based telescopes through Earth's atmosphere, showing the crucial role of Extremely Large Telescope (ELT) adaptive optics in achieving clear observations. We present comprehensive analysis of the expected performance with the three large ground-based telescopes (ELT, Thirty Meter Telescope or TMT, and Giant Magellan Telescope or GMT), showing the full solar system and key biosignatures of life — oxygen and water — in the presence of the actual atmospheric modelling of ELT as a proof of concept. This paper provides a stepping stone toward building, testing, and advancing the concept into a space mission.

continued on page 4

Artemis II and the Return Beyond Earth Orbit

Damian R. Wilson
Science & Tech

Just days after liftoff from Kennedy Space Center at 6:35 p.m. EDT on April 1, Artemis II has reestablished a capability absent since Apollo 17: human transit beyond Earth orbit. The mission represents the first crewed validation of a modern deep-space system and marks a transition from experimental demonstration to operational architecture for lunar exploration.

The key maneuver occurred during the translunar injection burn, a roughly six-minute firing of the Orion service module engine. This burn raised the spacecraft's energy above Earth escape, placing it on a free-return trajectory toward the Moon. With this event, astronauts Reid Wiseman, Victor

Glover, Christina Koch, and Jeremy Hansen became the first crew in over 50 years to enter cislunar space. At time of writing, the capsule is over 150,000 miles from Earth, approaching the midpoint of its outbound trajectory.

From an engineering standpoint, Artemis II is a full-system test of NASA's Space Launch System and Orion under crewed conditions. Early mission phases included insertion into elliptical and high Earth orbits, separation from the interim cryogenic propulsion stage, and a manual piloting demonstration using that stage as a target. These operations validate guidance, navigation, and control performance, as well as crew interfaces and handling characteristics. Subsequent transitions to the Deep

continued on page 6

Inside
This
Issue

2

Lloyd Interhouse

3

Caltech Debuts
"Orange Folder"

4

Two Lloyd Alleys
Attempt Secession

5

Tusks and Wonder:
A Review of *Blood
Ivory*

6

On Our War

7

2026 San Gabriel
Valley Food Passport

8

Between Islands and
Identity

10

Caltech Wildlife:
Parrots and Parakeets

ME 72

continued from page 1

engineer fears hearing at the wrong moment. Pharaobots — Sophia-Marie Andrews, Miina Anvelt, Daniel Brito Matehuala, Wenshao Dong, Ana Jaramillo, Anya Mischel, and Hannah Ramsperger — committed fully to the pyramid bit and, as it turned out, had the performance to back up the theme. Pyramaniacs — Susanna Cao, Noah Howell, Mahak Mathur, Logan Smith-Perkins, and Eloise Zeng — sounded exactly like a team that had stared at a steel slope for long enough to start loving it. Climb & Punishment — Diya Agarwal, Citli Carrera Arenas, Renee Hsu, Angelica Moussabote, Miigwan Tanner-Wostrel, and Jordan Threat — may have had the most accurate title of the day. And then there was MechE Wednesday: After Party — Elise Chu, Aiden Di Carlo, Jason Kamau, Maryan Malkosh, Ried Nussbaum, Deon Petrizzo, and Ethan Pichon — whose name promised either victory, collapse, or a very memorable evening and drinks. Together, they were less a set of student teams than six highly caffeinated design philosophies on wheels.

The tournament unfolded as a ten-match round robin, with teams forced not only to perform but to endure. Before the competition, milestone tests had already required teams to prove single capabilities such as climbing and pellet intake. Match play was another matter. Robots sometimes had to compete in back-to-back rounds, accumulating wear and damage. Between matches, students crowded the sidelines, repairing drivetrains, adjusting mechanisms, and improvising fixes as the day accelerated. If resilience was not the official theme of ME 72, it became the unmistakable one.

By the end of the opening round, four teams had advanced to the semifinals: The Clanks, Pyramaniacs, MechE Wednesday, After Party, and

Pharaobots. Pharaobots quickly emerged as one of the field's most consistent teams. According to Caltech's competition coverage, the team had spoken openly beforehand about nerves, but once the matches began, their robots climbed reliably and scored across successive rounds. In the final, Pharaobots defeated Pyramaniacs to claim the win and lift the long-standing gear-shaped ME 72 trophy.

What the public saw in Brown Gym was spectacle: steel, collisions, climbs, summit deposits, repairs made in a panic. What the students experienced was something more lasting. Ana Jaramillo of Pharaobots said after the event that she had expected the competition to be fun, but found this year's challenge especially rewarding because it was "more abstract, different, and challenging" than previous editions she had seen. Her teammate Anya Mischel described the team's biggest struggle as integration: individual subsystems worked on their own, but getting everything to function smoothly together was another matter entirely. After the win, she reflected that the team had made "almost every possible mistake throughout the process," and learned from each of them.

That, more than the trophy, is what ME 72 appears designed to teach. Mello called the course "a wonderful proxy for industry experience," because it forces students to work through the realities that define engineering outside the classroom: communication, miscommunication, compromise, responsibility, deadlines, and the stubborn fact that no design is proven until it performs in the real world. In Brown Gym, that lesson played out in plain view. By the end of the day, one team left with the trophy. All of them left with something harder to measure and, in the long run, probably more important.



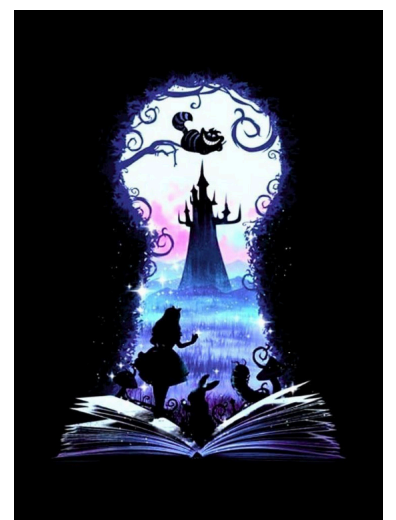
Photo coverage from the event, including match action, robot repairs, and the Pharaobots' trophy celebration, appears in Caltech's official competition story. (Photos: Lance Hayashida/Caltech)

Lloyd Sends Guests Down the Rabbit Hole at *Alice-*Themed Interhouse

Damian R. Wilson
The Inside World

Lloyd brought a touch of the surreal to Interhouse this year with an *Alice in Wonderland*-themed Lloydhouse — equal parts whimsical and unhinged in a perfectly Caltech fashion. Walls came alive with Carrollian iconography, from a looming Red Queen to playing cards and warped storybook motifs, while a vivid multicolored Cheshire Cat grinned beside the DJ booth, flickering in and out of view under the lights.

And, of course, the pole returned — one of Lloyd's most storied traditions. This year, dancers were officially invited to take a spin (with a gentle reminder to keep things PG-13 and the pole intact). At once spectacle and rite of passage, the pole was a centerpiece of Lloyd's particular brand of chaos: playful, communal, and just a little mad.



Concept art for the set's walls and the resulting dance floor. (Images: Lloyd House; Damian R. Wilson)

Caltech Debuts “Orange Folder” to Aid Student Support

Damian R. Wilson
News

On March 31, Caltech Student Affairs introduced [the Orange Folder](#), a centralized online resource designed to help faculty and staff recognize and respond to students in distress.

Announced in a campus-wide letter from Joseph Greenwell, Associate Vice President of Student Life and Chief Student Affairs Officer, the initiative aims to consolidate existing support resources into a single, accessible guide. The tool provides practical steps for identifying warning signs, responding to students in the moment, and connecting them with appropriate campus services.

“Because of your regular interaction with students, you are often among the first to notice when a student may be struggling,” the letter reads. “The Orange Folder provides practical guidance to help you recognize signs of distress, respond supportively in the moment, and connect students with ap-

propriate campus resources.”

The resource directs faculty to options including CARE referrals, the Undergraduate Deans’ Office, the Graduate Studies Office, and Student Wellness Services. In cases of immediate danger, it instructs contacting Campus Security.

From “Best Practice” to Caltech Adaptation

In an interview with the *Tech*, Greenwell emphasized that the Orange Folder is not a novel invention, but an adaptation of a model used across other universities, including the University of California system.

“I found it to be very helpful in educating the campus about various resources and how to support students in distress,” Greenwell said, referencing his prior work at institutions such as UC Berkeley and Columbia University. “It’s not just a copy and paste. We worked hard to match Caltech’s unique needs.”

That process involved broad consultation across campus. Greenwell collaborated with Student Affairs leadership, the CARE team, faculty leadership,

and student representatives, including Ashlyn Royce and the Graduate Student Council.

Feedback shaped both structure and content. Royce, for instance, pushed for clearer explanations of the CARE referral process: an area she said had previously caused confusion among students and administrators alike.

Addressing Gaps in Awareness

The Orange Folder responds in part to a perceived gap — not a lack of resources, but a lack of clarity about how and when to use them.

“There had been many discussions ... about the lack of staff knowledge on how to identify students who were struggling emotionally,” Royce said. “Additionally, there was a lot of confusion on the CARE process and what it entailed.”

Rather than introducing new services, the Folder organizes existing ones into a streamlined, user-friendly format. Faculty can access it online or download a PDF, though administrators recommend book-

marking the website for quick reference.

A central feature is guidance on recognizing distress. The Folder outlines behavioral and academic signals: subtle shifts that might otherwise go unnoticed in a busy term.

“We get very busy,” Greenwell noted. “A student missing an assignment doesn’t necessarily mean they’re in distress. But the Folder helps faculty recognize patterns and have the appropriate conversation or seek support.”

One Tool in a Larger Well-Being Strategy

Administrators stress that the Orange Folder is not a standalone solution, but part of a broader effort to prioritize student well-being.

“This is just one tool,” Greenwell said. “There’s ongoing training, faculty-specific outreach, and student programming. But not everyone attends trainings — so this provides basic, accessible information in the moment it’s needed.”

Looking ahead, both administrators and student leaders

see room for expansion. Royce noted that future iterations could incorporate clearer guidance on CASS (Caltech Accessibility Services for Students) accommodations, another area frequently misunderstood.

More broadly, the initiative reflects a shift toward embedding well-being across institutional practices.

“Student well-being is part of everything that we do,” Greenwell said. “This is one example — but there will be more to come.”

Scan to access the Orange Folder on the Caltech Student Affairs website.



Spring Refreshes: New Seats, Sustainability, and Supporting Our Community

Miguel Campos
News

We hope your first week of the spring term was a success! As we settle into the rhythm of the new term, Housing and Dining Services are back with our collaborative column in the *Tech*. We are excited to keep you updated on housing initiatives and the latest culinary experiences we’re cooking up to support our community through the final stretch of the academic year.

Housing updates
House Improvements & Maintenance — We have been continuing our close collaboration with the Stewards and Facilities on several initiatives to improve life in the houses.

- This term, we are excited to announce a sustainability partnership with the Sustainability Office to recycle and refresh our communal spaces. Starting the week of April 6, new undergraduate dining chairs will be delivered to Dabney, Fleming, Ricketts, Lloyd, Page, and Venerable.

- We are pleased to ensure that the previous chairs will be recycled if they are still in usable condition.

Future Planning: Storage & Lottery — It is already time to look ahead! Information regarding the 2026 Fall Housing Lottery and Summer Housing is now available. You can find detailed information on the processes, deadlines, and requirements by scanning the following QR codes or by visiting the Housing website.

- Summer Lottery: housing.caltech.edu/undergrads/housing-contract-lottery/summer-lottery-process

- Fall Lottery: housing.caltech.edu/undergrads/housing-contract-lottery/undergrad-lottery-process

Contacting Housing — The Housing Office can be contacted by phone at 626-395-

6176 and email at housing@caltech.edu during business hours, Monday-Friday, 8am-5pm.

The dining scoop

A Meaningful Partnership: Supporting the Ronald McDonald House

Our team believes in the power of community, both on campus and within the greater Pasadena area. We are proud to share that we have formalized a partnership with the Ronald McDonald House Charities to reduce food waste and support families in need. Twice a week, our kitchen team coordinates the donation of surplus food to help feed between 20 and 35 families. We’ve been working closely with their staff to facilitate these donations and are actively exploring new avenues to increase our impact in the coming months.

Dining “Did You Know?” — We’re always looking for ways to better serve our student body. Here are two updates you may have noticed during your first week back:

- Plant-Based Alternatives:** To support diverse dietary needs and our sustainability goals, we have officially moved away from additional charges for plant-based milk alternatives at all dining units.

- Global Flavors at Red Door:** Next time you’re at the Red Door C-Store, check out our dedicated aisle for **Asian confectioneries and snacks**. Whether you’re looking for a favorite treat or something new to try, there’s plenty to explore!

Midnight Madness: A Jazzy Final Send-off — Before we look too far ahead, we want to say a huge thank you to everyone who joined us at the end of last term for the **Midnight Madness Jazz Club!** It was a blast taking a moment to enjoy some live jazz and vibe together while snacking on treats prepared by our dining team. We hope the ambiance gave you the breather you

needed to power through finals.

Our team always enjoys going the extra mile to host a party that helps you unwind, and we can’t wait for the next one! We aren’t revealing the **secret theme** for this term’s Midnight Madness just yet, but we’re already working hard to make it a night to remember.

Connect with us
We are one team dedicated to enhancing your student experience throughout the spring term.

- Dining Questions: dine@caltech.edu | dining.caltech.edu

- Housing Questions: housing@caltech.edu | housing.caltech.edu

Art from the CDS Midnight Madness Jazz Club. (Credit: Miguel Campos)



Art from the CDS Midnight Madness Jazz Club. (Photo: Miguel Campos)



SUMMER LOTTERY



FALL LOTTERY

Two Lloyd Alleys Attempt Secession, Establish “Republic of Nugget” Amid Presidential Uncertainty

Emily Yu
Humor

A constitutional crisis unfolded last week in Lloyd after residents of Purple and Kaos alleys announced their intention to secede and establish an independent state, the “Republic of Nugget.”

The declaration came on March 31, when former President Isabella announced on behalf of the Purple and Kaos alleys that, “in the absence of our fearless leader” (current President Shan is off-campus this term), they had “elected to secede from Lloyd House in order to form our own independent state, the Republic of Nugget.” The message said the new entity would be “governed by the people, of the people, and for the nugget, our lord and savior,” and that it would no longer recognize “directives that conflict with our interests or conflict with our autonomy.” On a more conciliatory note, the declaration looked forward to “mutual cooperation and living in harmony” with the rest of the house.

On April 1, in a reply modeled on the Gettysburg Address, Shan described Lloyd as a house “conceived in Liberty, and dedicated to the proposition that all men and women are created equal,” before declaring that the house was now “engaged in a great civil war, testing whether that house, or any house so

conceived and so dedicated, can long endure.” He rejected the breakaway movement’s claims to legitimacy, writing that he would not “dignify this stunt with the word ‘secession,’ as doing so would grant Purple and Kaos a power that they do not possess.”

Shan did not recognize “a so-called republic that boasts neither government nor support, neither status nor finances,” and reminded the separatists that they continued to benefit from Lloyd infrastructure, such as “the pole at Lloyd interhouse.” He closed by stating that “this house, under God, shall have a new birth of freedom,” and that “government of the people, by the people, for the people, shall not perish from the earth.”

The Republic of Nugget escalated on April 2. Ryan, a resident of Kaos, said the republic was “appalled” by the rejection of its “declaration of autonomy,” especially from “a leader who himself has chosen to abandon this house he simultaneously hopes ‘can long endure.’” He also dismissed the president’s warnings as “empty and baseless,” particularly from “an entity presently lacking financial or political stability itself” (Lloyd was in the process of electing an interim president while Shan is off-campus).

The email then introduced what may be the young state’s first major technological achievement: “enriched Nugget

Juice™,” described as a means for “the generation of peaceful nugget-based energy.” The republic expressed hope that this innovation would “further legitimize” it, or at least strengthen its position in negotiations over “future successful cohabitation.” The email ended with a galvanizing statement: “We ride at dawn.”

Despite the strong rhetoric, major questions about the viability of Nugget sovereignty remain unresolved.

The emails do not indicate that all residents of Purple and Kaos consented to the secession. Isabella stated that the alleys “have elected to secede,” but provided no details on turnout or vote-counting procedures.

There are also unanswered questions about the republic’s constitutional structure. The emails identify “the nugget” as “our lord and savior,” and the April 2 email refers to “Lord Nugget,” but the nature of that authority remains unclear. Does the inanimate dinosaur-shaped chicken nugget function as an executive, a ceremonial monarch, a dictator, or a symbol governed in practice by unelected advisers? No constitution has been produced, and no evidence has emerged that the dino nugget has formally consented to office.

The form of government is therefore uncertain. The founding email promises a polity “governed by the people,”



A crowned dino nugget, bearing the motto “E pluribus Nugget,” as featured in the secession email. (Credit: Isabella Pagano)

but roots political legitimacy in a nugget figure described in quasi-theological terms. That leaves open the possibility that the Republic of Nugget is a constitutional republic, a benevolent dictatorship, or an unstable mix of both.

Practical concerns remain as well. If Purple and Kaos are to exist separately from Lloyd, it is not clear how interhouse sports would function. Will the seceded alleys compete independently, or will the arrangement resemble Great Britain’s split identity in international competition — separate in certain events, united in others?

Nor is it clear if the new republic is actively recruiting. While the emails are explicit in asserting autonomy and legitimacy, they state less about expansion. Whether other alleys are being enticed by the promise of nugget-based energy remains unknown.

For now, the movement seems to be symbolic. Lloyd House does not appear to be facing an imminent territorial shakeup. However, it does contain an aspiring republic, and with it an open question: Can nugget sovereignty survive?

Nature Astronomy Exoplanet Imaging

continued from page 1

Next Steps Toward the Discovery

How will we build this 99-meter orbiting starshade? That’s nearly the size of the International Space Station! It may sound impossible, but NASA has invested in large-scale wrapped starshade design developed at [JPL-ALPS](#). These efforts have successfully demonstrated shape and deployment accuracy in smaller scalable prototypes. NASA’s NIAC program has also supported studies exploring other implementation methods, including inflatable structures, in-orbit assembly, and the innovative Metashade concept, which

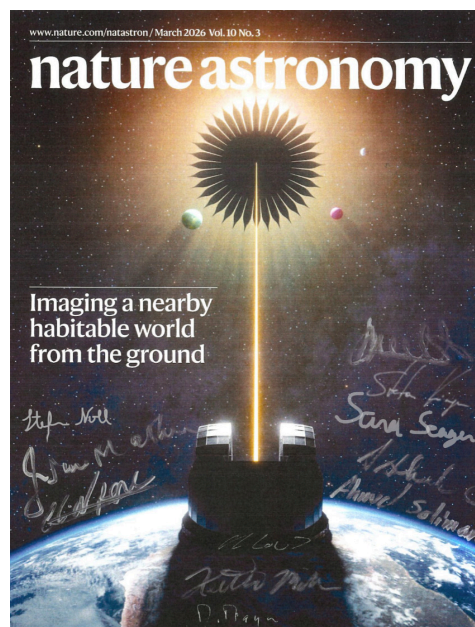
uses architected metamaterials and photonic crystals. In addition, a team of 30 experts in engineering and science met at the Caltech Keck Institute for Space Studies (KISS) from [March 9–13](#) to develop a roadmap for turning this concept into a space-ready mission. NASA HQ STMD/NIAC office [has also featured](#) our *Nature* paper and KISS study. Our key findings will be included in the final KISS report, expected in the coming months, and will also be presented in our forthcoming SPIE proceedings manuscript — currently readable in [SPIE Astronomical Telescopes + Instrumentation](#). This effort represents a major milestone toward the highest-performance exoplanet observations from ground-based telescopes, enabling the study of hundreds of Earth-like exoplanets for potential signs of life.



Participants of the Hybrid Space-Ground Observatories Workshop at the Caltech Keck Institute for Space Studies (KISS). (Photo: KISS)



Ahmed Soliman with JPL Director Dave Gallagher on the JPL campus. Photo courtesy of the author.



The *Nature Astronomy* cover image was signed by all authors, including Caltech KISS Harriet Brettle and Caltech-IPAC Kieth Miller. Credit to Soliman, A., Mather, J., Shaklan, S. Peretz, E. et al. “The observation of Earth-like exoplanets with ground-based telescopes and a shared orbiting starshade.” *Nat Astron* 10, 349–356 (2026). Cover design by Bethany Vukomanovic. (Image: KISS/Keith Miller)

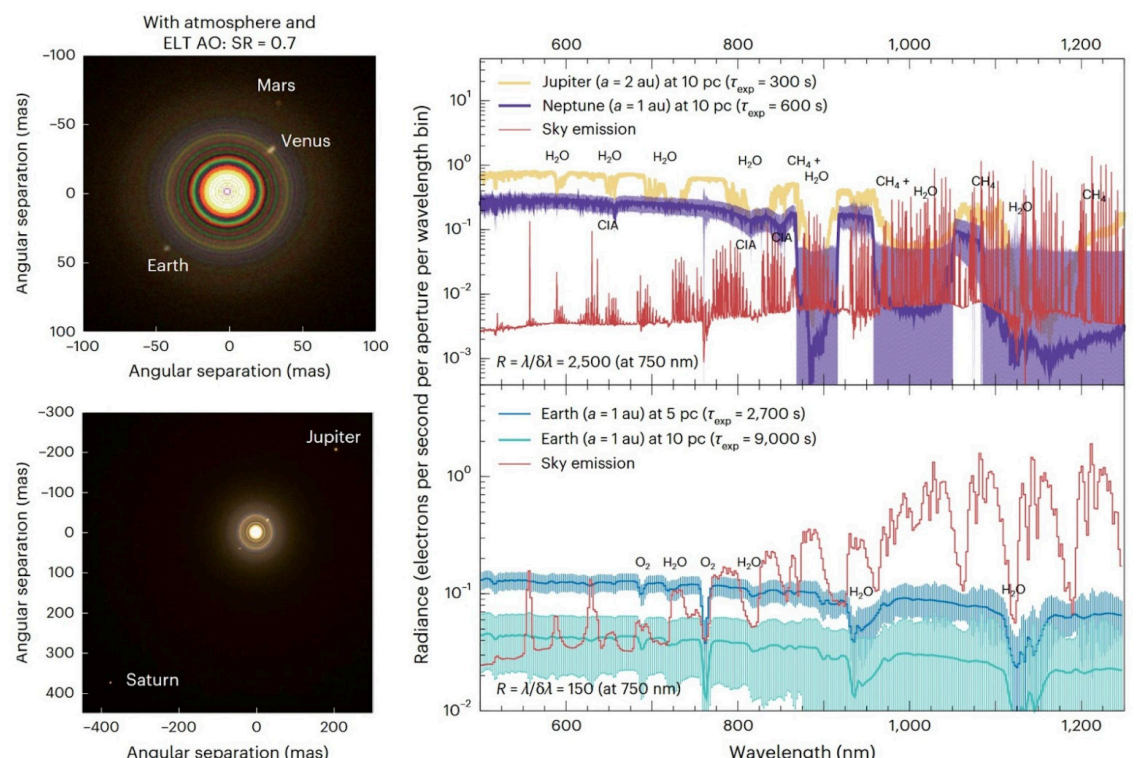


Figure 2 of the paper, which shows we can detect the full solar system through the Earth Atmosphere and ELT AO, including Earth-like Exoplanets in a few minutes and bio-signatures of life (oxygen and water) in a couple hours. (Image: Nature Astronomy)

Tusks and Wonder: A Review of *Blood Ivory*

Otis Otieno
Culture

In my three years at Caltech, I have learned one undeniable truth: winter terms are the hardest. If you aren't grinding through core requirements, you're battling the occasional rains and winds. If not the weather, then some burning bush (literal and metaphorical). The moral is simple — in winter, things just happen. So when spring break finally arrives, the excitement of Techers is palpable. We hope to escape to anywhere, to anywhere but here.

I had plans. A destination was set. But after an intense battle with bureaucrats half-way across the world, I had to settle for staying on campus. Staying on campus, as it turned out, was unexpectedly peaceful. No cramped laundry rooms, no queue for gym machines and — to my great joy — no class deadlines. But the biggest pro was this: I finally had the focus and time to read the books that the grind never allows.

This spring break, I got my hands on *Blood Ivory: The Massacre of the African Elephant* by Robin Brown. It is a tale of the massacre of the African elephant. Coming from Kenya, I am no stranger to the subject. Wildlife biology was a huge component of my high school and poaching was never far from the headlines. *Blood Ivory* does not dwell on the science of poaching. Instead, it dives into the historical and social forces behind the decline of elephants across Sub-Saharan Africa.

Let me briefly touch on the science, because it matters. Poaching caused the decline of so-called “supertusker” elephants by reversing natural selection. Large tusks, once an advantage for survival and mating, became a death sentence. Poachers selectively targeted elephants with the biggest ivory, favoring a pre-existing genetic mutation linked to the X chromosome that causes tusklessness in females (but is lethal to males). The result was a dramatic rise in tuskless females in heavily poached populations. This is rapid, human-driven evolution — the

genes for “super tusks” systematically removed. But the cost is real: tuskless elephants struggle to dig for water and strip bark, harming their own survival in other ways.

Robin Brown, however, largely ignores the science. He delves instead into the social anatomy of ivory hunting. His book unfolds chronologically, tracing two major arcs: the historical and the modern.

In the historical arc, Brown focuses on the infamous Arab slave and ivory trader Tippu Tip (Hamed bin Mohammed al-Murjebi), alongside European explorers like Stanley and Livingstone. These men both documented and inadvertently enabled the decimation of Central and East Africa's elephant populations. The thread depicts the staggering scale of 19th-century ivory exploitation — elephants slaughtered by the thousands to fuel global

demand for piano keys, billiard balls, and luxury goods.

The modern arc shifts to the 1970s and 1980s, portraying the industrial-scale poaching crisis that brought the African elephant to the brink of extinction. Here, Brown dramatizes the transition from muzzle-loading rifles to helicopter-mounted machine guns, highlighting the roles of organized crime, corrupt government officials, and the insatiable Asian markets for raw ivory.

Now, the most compelling parts of *Blood Ivory* were those that raised conflicts within me — personal, moral, and historical.

The first big question concerned the correlation between slavery and ivory hunting. Brown notes that many hunters were driven not only by profit but also by the sheer amount of meat that African tribes consumed due to their inherent carnivorous traditions. On this account, most original African tribes are guilty. I eat a lot of meat — enough that my friends frequently comment, “You should include more veggies in your diet.” Jokes aside, this part of the book made me ask myself: if African tribes had eaten less meat, would less ivory have been hunted? It is an uncomfortable question, and Brown does not pretend the answer is simple. My

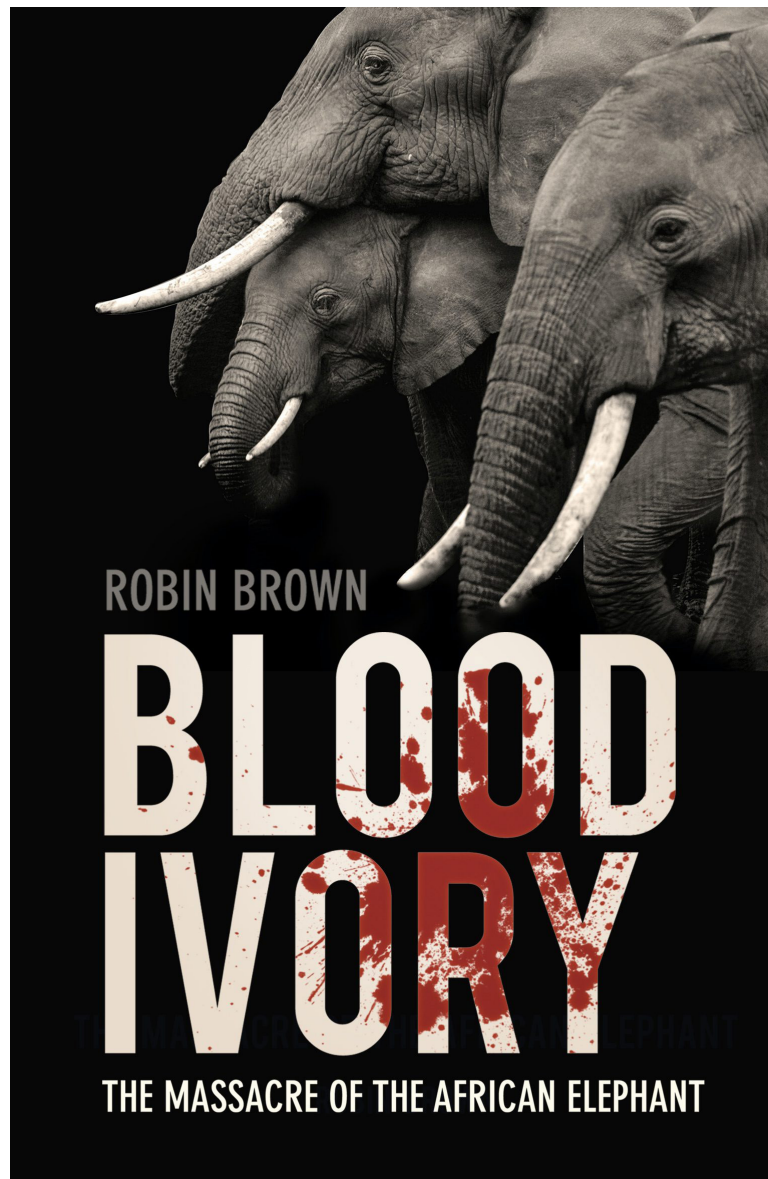
reasoning is that ivory was the real economic driver due to external demand. It is not local consumption, therefore, that drove the poaching business. If it were the case, then there would be no accounts of rotting carcasses from poaching activities. Anyway, it was a question worth thinking about.

The second big moment came from Brown's use of imagery and philosophy. Drawing from Jose Ortega y Gasset's *Meditations on Hunting*, he presents a striking idea: humanity is a runaway from the natural world. Having broken away from nature, humans set out to create history — an ongoing effort to turn the imagined, the unlikely, and even the impossible into reality. History is always built against the grain of nature's flow. The discomfort and deep uneasiness that comes from living within history is so overwhelming that people seek temporary relief by artificially returning to nature. That return, Brown argues, was originally enabled through the act of hunting.

This passage resonated with me. With the rise of conservation, we have largely ceased hunting with machetes, guns, and traps. But have we stopped hunting? I think not. Now, we hunt with our eyes and cameras. We chase experiences — the perfect photograph of a super tusker like Craig beneath Kilimanjaro, the fleeting thrill of proximity to the wild. It is a gentler kind of extraction, perhaps, but extraction nonetheless. We still want something from nature. We just dress it up as wonder.

Blood Ivory is not an easy read. It is dense, morally uncomfortable, and unflinching in its depiction of violence. But it is also necessary. Robin Brown reminds us that the ivory trade was never just about greed. It was about history, empire, hunger, and the strange human need to escape history by reenacting our oldest relationship with the wild.

So yes, winter terms are hard. But spring breaks spent with books like *Blood Ivory*? They might just be harder — in the best possible way.



Cover art for *Blood Ivory: The Massacre of the African Elephant* by Robin Brown (with John Hanks). (Photo: The History Press)



The glorious African savannah elephant, or *Loxodonta africana*. (Photo: Manoj Shah/Getty)



An “Elephant Queen” in Kenya, known as a “big tusker.” (Photo: Will Burrard-Lucas/CNN)



Craig, one of Kenya's last remaining “super tuskers,” roams Amboseli National Park with the iconic Mount Kilimanjaro in the background. (Photo: Nitin Madhav)

Artemis II

continued from page 1

Space Network and activation of redundant subsystems extend this validation into the deep-space environment.

Mission objectives emphasize system reliability and operational readiness. These include sustaining crew health and performance, exercising contingency procedures, and collecting telemetry across propulsion, thermal control, life support, and communications systems. Even minor anomalies, such as early issues with onboard sanitation systems, provide useful data for refining hardware and procedures ahead of longer-duration mis-

sions.

The mission also contributes to observational science and public engagement. High-resolution imagery returned by the crew shows Earth at large phase angles, including views of the atmospheric limb, auroral activity, and the day-night terminator. These datasets complement existing Earth observation records and demonstrate the capabilities of crew-operated imaging in deep space.

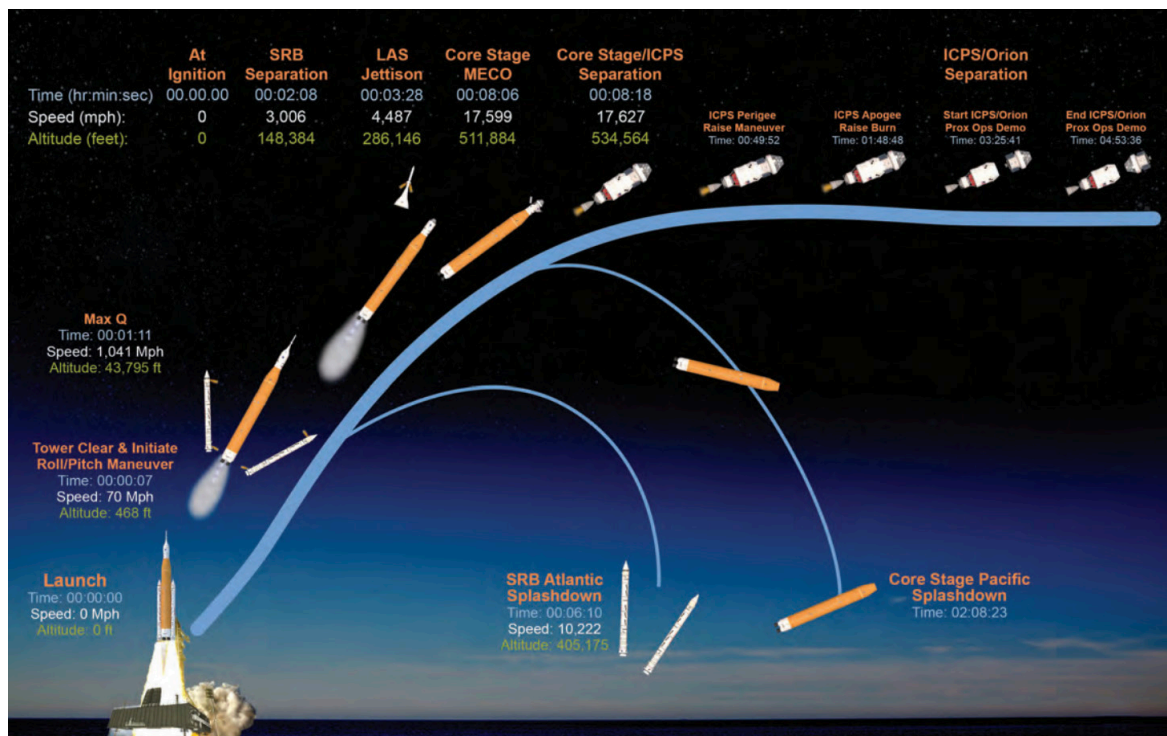
Artemis II's planned lunar flyby on April 6 will provide additional observational opportunities. The spacecraft will pass around the Moon's far side, a region not directly viewed by humans since the Apollo era. Partial illumination conditions are expected to enhance topo-

graphic contrast, aiding visual identification of surface features relevant to future exploration.

Within the broader context of spaceflight history, Artemis II functions as a systems-level verification step for sustained lunar operations. Unlike Apollo, which demonstrated feasibility, the Artemis program is structured around repeatability and scalability. Data returned from this mission will inform subsequent flights, including crewed lunar landings and extended surface operations. In this sense, Artemis II is less a singular milestone than a critical validation phase in the development of an extended human presence beyond low Earth orbit.



NASA's Artemis II Space Launch System lifted off from the Kennedy Space Center in Cape Canaveral, Florida on Wednesday, April 1. (Photo: Chip Somodevilla/Getty Images)



"Hello, World," an image of Earth taken from the Orion capsule on April 2. (Photo: Reid Wiseman/NASA)

Artemis II launch sequence from mission documentation, showing solid rocket booster (SRB) jettison, followed by separation of the core stage and launch vehicle stage adapter. The Interim Cryogenic Propulsion Stage (ICPS) and Orion stage adapter then separate from Orion, after which CubeSat payloads are deployed. (Image: Space Launch System/NASA)

On Our War

Kieran Hale
Inner Voices

The Coward said — the deaths of the girls our boys just killed, They hardly affect me. I'm scared that he is right.

We see tortured death and all we talk about are gas prices.

The Philosopher disagrees with the Coward.

Says — we all share the joy of this world.

We have lost greatly.

The Writer doubts himself.

What words from me can bring them justice?

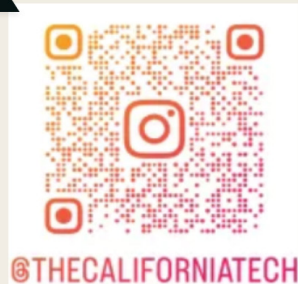
The Lover of Peace prays That the fathers whom we have burned

With the memories of their daughters

Are better men than we

FOLLOW THE TECH ON INSTA

Keep up with our story updates and exclusive content here!



THECALFORNIATECH

LET YOUR VOICE BE HEARD!

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.

THE TECH WANTS TO HEAR FROM YOU!



Editor's Note: We want to hear your perspective!

We strive to represent every voice in the Caltech Community with fairness, accuracy, and impartiality in our news reporting. If you think we missed something, or just want to share your thoughts about a topic we've reported on, I encourage you to submit a Letter to the Editor!

Send submissions or contact the Tech editorial team at

tech@caltech.edu

Submissions are due at 12 p.m. on the Saturday before each biweekly Tuesday publication.

2026 San Gabriel Valley Food Passport: Third Round of Reviews

Victoria Davis
Column

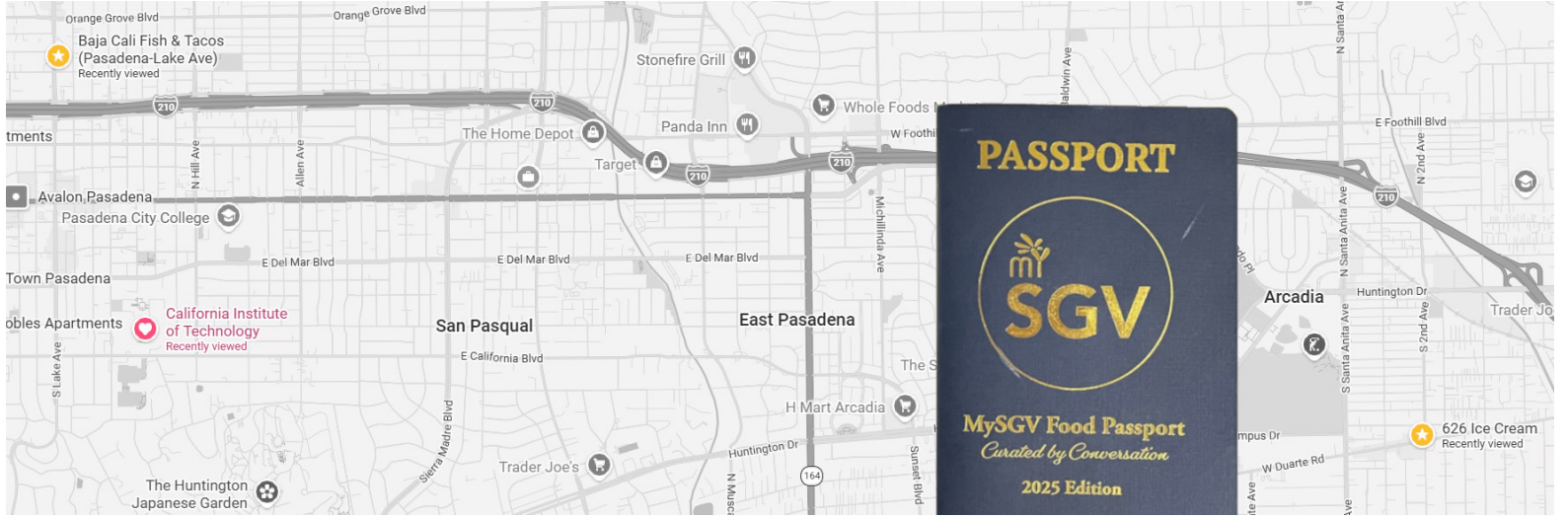
Hello Tech readers! Time for the third round of reviews where I explore the San Gabriel Valley food scene with the 2025 MySGV Food Passport. This passport is valid from July 1, 2025, to June 30, 2026, so I have been trying to explore as many restaurants as I can in 2026! For this issue, I grabbed dinner with my Caltech bestie, Kayane, and then we went for ice cream.

Baja Cali

Passport description: “Marielena and Jaime infuse cultural pride and resilience into Baja Cali Fish & Tacos and Girasol Cocina Mexicana”

Passport benefit: Buy any bowl, get a bowl free

Kayane and I stopped into Baja Cali for dinner and LOVED it! I ordered the Birria Bowl and Kayane ordered the Shrimp Bowl. I also ordered the Birria Nachos to have for lunch the next day. (It was just as good warmed up the next day as when I ordered it!) Kayane



also ordered a Shrimp Taco, and loved it so much she ordered more for lunch the next day too! The vibe inside was fun and the music was great. The seating was comfortable and relaxed, perfect for grabbing a bite after work. We both enjoyed the food and atmosphere, and would come back again! Baja Cali is a hit!

626 Ice Cream

Passport description: “Am-

ber Tan and Waldo Yan infuse Asian flavors and heartfelt hospitality into 626 Ice Cream, honoring family legacy and community in the SGV”

Passport benefit: Buy 2 soft serve & toppings, get 2 of equal value free (individual or kid-size).

After dinner, Kayane and I drove to Arcadia for delicious ice cream. Thank goodness the timing worked out, as 626 Ice Cream only opens at 7 PM! We

had no idea. It was a fortuitous outing. When we arrived at 6:57 p.m., there was already a line outside waiting for them to open! After sampling all their ice cream flavors, I decided to get Condensed Milk with Oreo crumbles and dark chocolate chips.

For my free ice cream, I got Blueberry Fig with white chocolate chips and Cinnamon Toast Crunch toppings. Kayane got Condensed Milk with

fruity mochi toppings, and for her free ice cream, she chose Nian Gao with mochi toppings. These flavor combinations were amazing! I loved how different the flavor options were. The ice cream was refreshing and light. The perfect palate cleanser after a meal! I think this is my new favorite spot for ice cream. Will definitely be returning to 626 Ice Cream again!

Baja Cali



Exterior and interior of Baja Cali. (Photo: Victoria Davis)

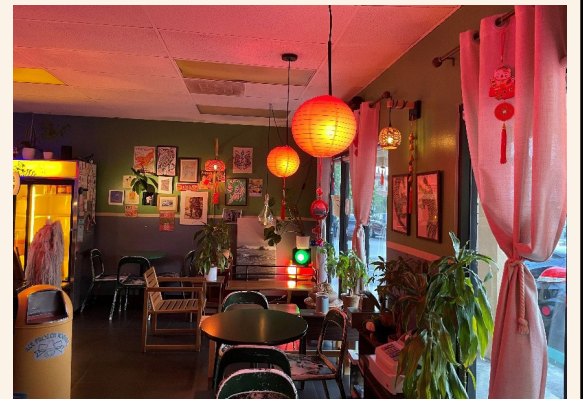


Birria Bowl and Birria Nachos from Baja Cali. (Photo: Victoria Davis).



Shrimp Taco and Shrimp Bowl from Baja Cali (Photo credit: Kayane Dingilian).

626 Ice Cream



Left and above: Exterior and interior of 626 Hospitality Group. (Photo: Victoria Davis)



Right: Ice Cream Flavors at 626 Ice Cream. (Photo: Victoria Davis)



From left to right: Nian Gao with mochi, Condensed Milk with fruity mochi, Condensed Milk with Oreo crumbles and dark chocolate chips, and Blueberry Fig with white chocolate chips and Cinnamon Toast Crunch from 626 Ice Cream. (Photo: Victoria Davis)

Between Islands and Identity: What Hawai'i Gave Me That I Had Been Searching for All My Life

Camilla Fezzi
The Outside World

When I went to Hawai'i with the Caltech Y, I thought I was signing up for a meaningful spring break experience, a chance to see beautiful places, learn something new, and meet people. What I did not expect was that Hawai'i would touch a wound in me I had carried for years — one I had almost stopped trying to name.

I have spent so much of my life feeling like I stood slightly outside of where I was supposed to belong. As if everyone else had roots they could trace, while I was still left asking myself: What are my real origins? Where do I actually belong? Who am I when I am not reflected back to myself by others?

And then I arrived in Hawai'i. We traveled through Hilo and Kona, and from the very beginning the island felt unlike anything I had ever known. Hilo was green, wet, lush, almost breathing. It felt ancient and alive, as if the rain itself had memories. Kona felt different — darker in some places, shaped by lava and sun, with an energy that felt raw and exposed. Moving between them felt like moving through different emotional worlds. Everywhere I looked, the landscapes seemed impossible. It makes you realize how small your imagination has been until that moment.

There were views I could never have invented in my mind before seeing them with my own eyes. The colors seemed deeper than they should have been. The ocean was not just blue — it was alive and shifting. The black lava fields looked like something from another planet, yet they belonged perfectly beside the gentlest flowers and the softest skies. Everything felt so vast that it stripped away

the noise inside me. For once, I was not thinking about how I looked, how I was being perceived, or whether I was fitting in. I was just there. That, in itself, felt healing.

But what changed me even more than the land was the people.

One of the deepest emotions I felt in Hawai'i was this overwhelming connection to a people who hold on to their origins with such strength and dignity. I met people who knew exactly where they came from, in a way that felt woven into how they moved, spoke, danced, cared for the land, and cared for each other. There was something profoundly moving about witnessing a culture that fights to remain close to itself, that refuses to let its roots disappear, that treats ancestry not as a distant fact but as a living responsibility.

Being around Native Hawaiian culture, learning about the reciprocal relationship between k̄naka and 'āina, seeing how history, nature, family, and identity were tied together — all of it stirred something in me that I do not even fully know how to explain. When I saw people who knew how to belong to their story, I was forced to confront how far away I often feel from my own.

Yet, instead of making me feel excluded, Hawai'i made me feel invited. That is what I will never forget.

It struck me so hard — how people could seem to live with so little in the material sense and yet carry so much joy. There was beauty in simplicity there, but not the kind of simplicity outsiders romanticize without understanding. It was something gentler and stronger: a closeness to the land, each other, tradition, and presence. I remember thinking that I had spent so much of my life surrounded by noise, ambition, and pressure that I had almost

forgotten what it looks like when happiness is worn openly, when beauty is not about status but spirit.

And then there was the language. The Hawaiian language felt like music. I felt the same when I watched dance. There was something so beautiful and sincere in it. The movement did not feel separate from history or land. It felt like memory became visible and the body was speaking something words alone could never fully carry.

This trip also changed me because of the people I was with. We laughed, talked and shared moments together. The memory of canoeing stays in my heart in such a vivid way. Not because canoeing itself was extraordinary — though it was beautiful — but because of what it represented. We were moving together. Trusting the same rhythm. Sharing the same moment. The distance I often feel between myself and others seemed to dissolve on the water. I was just part of the group. Just another person laughing, rowing, feeling alive. That meant more to me than people probably realized.

The friends I made on that trip became part of what made Hawai'i sacred to me. There is something about being away from ordinary life, seeing breathtaking places together, and learning together in a new environment that accelerates closeness. We became companions in wonder.

Somewhere between Hilo and Kona, somewhere between the rain and the lava, the hikes and the nights, the silence and the laughter, the group started feeling like a new family.

I felt seen in ways I had not expected. One moment that stayed with me was meeting someone there who perfectly knew Caltech. It was such a small thing on the surface, but emotionally it felt much bigger. It was one of those strange and

beautiful intersections where two worlds that seem so different suddenly touch. Caltech, which can so often feel intense, enclosed, and separate from everything else, suddenly existed in Hawai'i too. That encounter made the world feel smaller, but in a comforting way — as if the parts of my life did not always have to remain fragmented from one another. And that was, in many ways, the theme of the entire trip for me: fragments coming together.

All the different parts of me came with me to Hawai'i. And for once, they did not feel at war. The island somehow held all of it.

What I learned there was not only about stewardship, or conservation, or the reciprocal bond between humans and the land — though those lessons were powerful and necessary. What I learned was also deeply personal: that identity is not always something handed to you. Sometimes it is something you grieve for. Sometimes it is something you search for in other people before you can begin to name it in yourself. Sometimes you only realize what has been missing when you witness a people who have fought so hard to protect exactly that thing. Seeing a culture so close to its own origins did not answer the question of mine.

But Hawai'i changed the question.

I began to ask something softer and more hopeful: What kind of belonging do I want to create? What traditions, people, places, and values make me feel most myself? What if family can also be chosen? What if origin is not only where you begin, but also what you decide to honor?

That shift matters. When I think back on Hawai'i now, I do not first think of it as a trip. I think of it as a threshold. A place where I saw beauty beyond imagination. I think

of flowers in people's hair, the sound of a language that felt like a song, and dance that carried generations. I think of the ocean, canoeing, laughing, and feeling free. I think of the people who welcomed us. I think of the strange ache and comfort of seeing a people who know how to hold on to who they are.

And I think of the version of myself who was there. For so long, I believed that belonging was something other people decided for you. That acceptance was a door you stood in front of, hoping someone would open. But in Hawai'i, I began to feel that belonging can also be something more alive than that. Something built in moments of connection. Something found in shared experiences. Something that grows unexpectedly when you allow yourself to be changed.

I came to Caltech carrying ambition, doubt, loneliness, and strength all at once. Then I went to Hawai'i and found what it feels like to be part of something real. Not because Hawai'i became "mine." It never could, and it should not. Its power comes partly from teaching respect — from reminding us that beautiful places and rich cultures are not ours to claim. But I can say this: Hawai'i gave me a feeling I had been missing for a very long time.

In some quiet way, it gave me permission to believe that even if I am still searching for my origins, I am not lost. Maybe that is why I still carry it with me.

Because sometimes a place does not answer your questions.

Sometimes it simply holds you gently enough that you can finally bear to ask them. And that, too, is a kind of home.

Thank you immensely, Caltech Y.



Caltech Wildlife: Parrots and Parakeets

Jieyu Zheng
Column

Here is a simple test of conscious living: ask a friend whether they've ever noticed the loud cries in the sky at sunrise and sunset. If they have no idea what you are talking about, they are missing a surprising amount of life. Give them a concerned look and point them to this article.

It still shocks me that some Caltech students, after years in Pasadena, have never paid attention to these jet-engine-decibel calls. Others have noticed them, but wrongly blamed the crows. Please, just look up! You will see shades of green, wings flapping furiously overhead, every single day. Parrots and parakeets cannot soar like hawks or ravens; they must flap for every meter of flight. They are such a distinctive sight here that I am convinced they deserve a spot on Pasadena's tourist checklist.

In our previous issue about [bird immigrants](#), I briefly men-

tioned the most abundant parrot species in Pasadena: the red-crowned amazons. Their story here is almost mythical. Native to Mexico, they were driven toward endangerment by poaching in the pet trade. Yet through a mix of accidents, most famously a pet shop fire, and pet releases, a large population established itself in Pasadena. Nowadays, only a few thousand red-crowned amazons remain worldwide, and more than half of them are in Pasadena.

Red-crowned amazons make up roughly 90% of Pasadena's parrots, but they are far from the only parrot species in the region. The different species are best distinguished by their calls. Compared to the murder-level screams of red-crowns, yellow-headed amazons are slightly more refined. Their "wow wow wow" calls sound almost like admiration for Los Angeles sunsets. They are also excellent mimics of human speech when kept as pets — perhaps one reason fewer

were released to the wild.

Then there are the parakeets — a smaller, livelier subgroup of parrot species. If the amazons are loud, repetitive declarations, the parakeets are conversations: chattering, varied, and just a bit quieter. They often travel in pairs or trios at dusk, and their longer tails than parrots are the most prominent feature in flight. Pasadena hosts a colorful mix of parakeets, including yellow-chevrons, red-masked, and mitred parakeets. You can spot them over campus at the right hours, or more reliably at places like the Huntington Library.

Although these parrots are introduced, they coexist surprisingly well with native birds (aside from occasionally being chased off for excessive volume). Diet plays a role: they favor fruits from non-native trees, which Pasadena has in abundance. The Caltech campus, for instance, is full of silk floss trees that serve as an excellent buffet.

After their loud announce-

ments at sunrise, parrots become almost discreet during the day. When feeding, they are quiet, and their green feathers blend seamlessly into the foliage. They remind me of graduate students sneaking into seminars unnoticed for the free lunch.

Two weeks ago, I found them by accident while standing under a tree near Red Door, when I felt crumbs raining down on me. Looking up, I spotted a pair of amazons feasting, nearly invisible among the leaves. They made no sound as they ate — only the steady crack of husks under their powerful beaks. With remarkable dexterity, they climbed and hung upside down, handling seed pods like skewers at a barbecue.

Winter is the best time to see parrot flocks. During this season, parrots from across the region gather for what can only be described as evening socials. Large flocks converge toward shared roosts, filling the sky and the air with incessant shrills. Though they live

in tight family units, they actively attend large gatherings for matchmaking. Young parrots meet future partners and form monogamous bonds that can last decades — till death do they part.

This year, one such gathering spot picked Pasadena City Hall. Even now, way into spring, you can still spot quite a few lingering there in the evenings. Imagine meeting your one lifelong partner in a violet sunset, surrounded by thousands of encouraging voices, and deciding on that very evening to spend every day together from that moment on. How romantic!

So the next time parrots wake you at dawn, I hope you will be a little more forgiving. These are just fellow Pasadena residents who try to be friendly and enthusiastically invite you to rise and join the day.

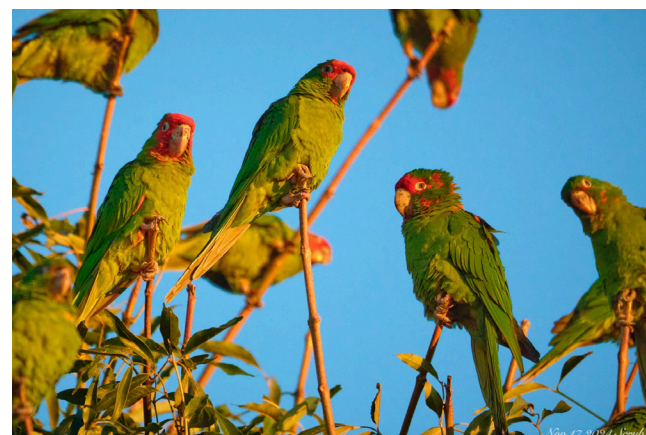
All photos courtesy of Jieyu Zheng.



A feasting red-crowned amazon south of Red Door.



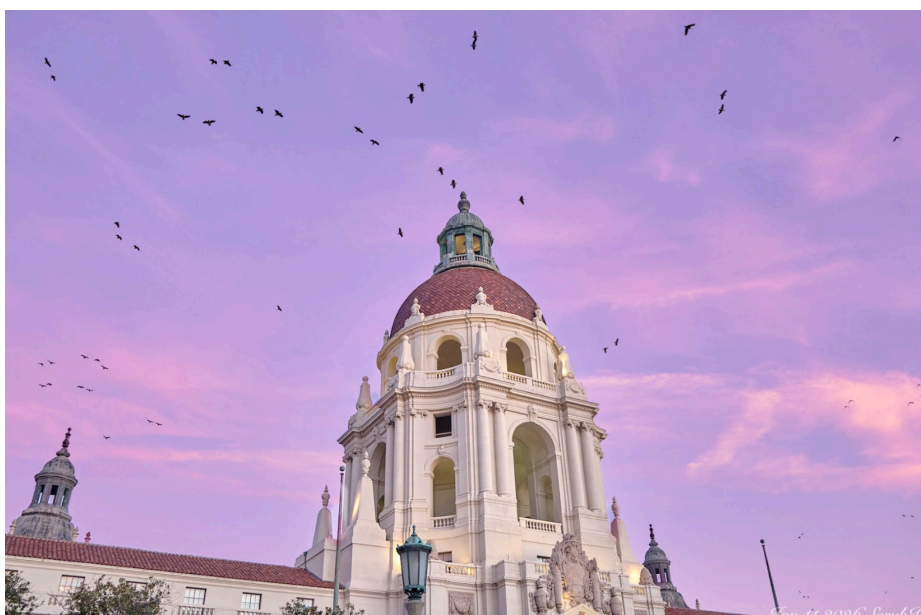
A pair of yellow-chevrons parakeets on a (quite intense) date.



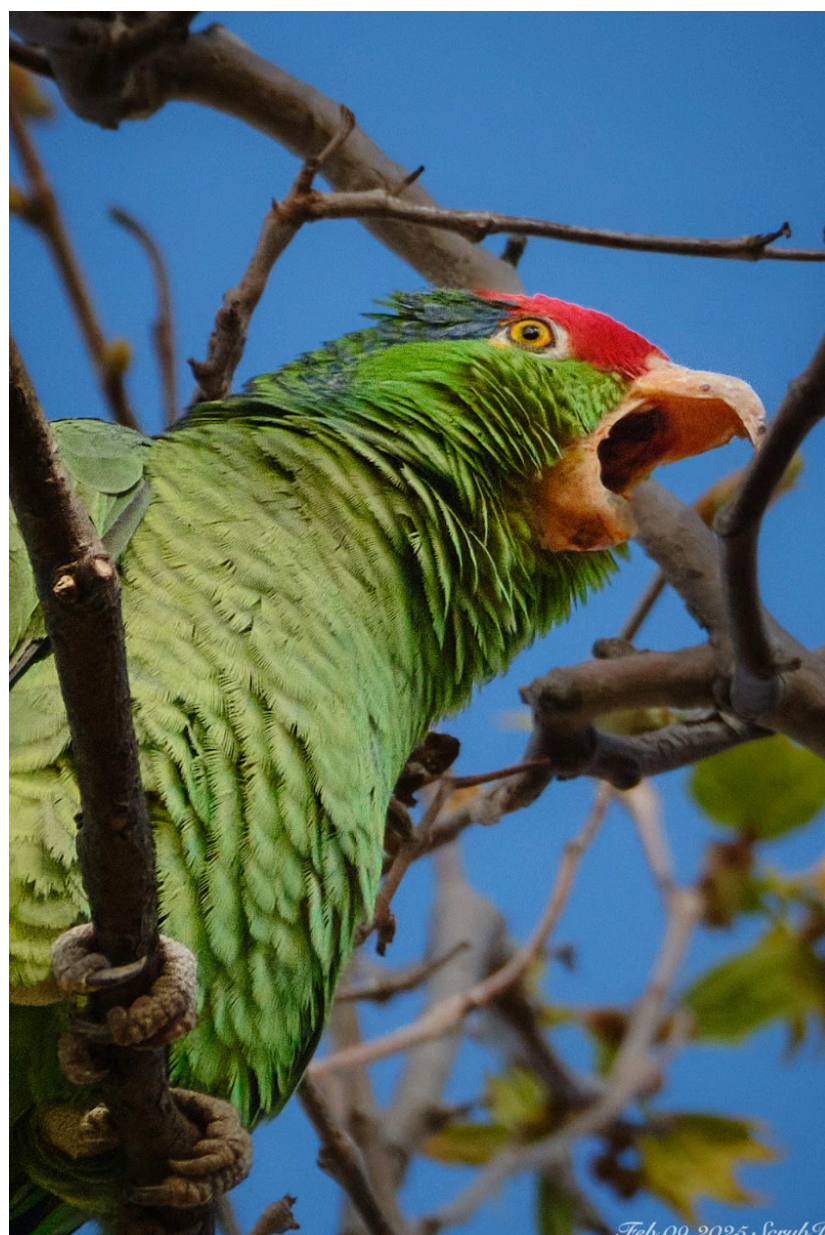
Parakeets always look at you with curiosity. The leftmost one, with much more red on its head, is a red-masked parakeet, and the rest in the photo are mitred parakeets.



A pair of yellow-headed amazons in the city light.



A small fraction of the parrots fly over Pasadena City Hall. Note that parrots have thicker wing shapes and shorter tails compared to crows or ravens, and many of them are in pairs or trios.



This is a very loud portrait of a red-crowned amazon.

When
15 APR
Wednesday
Chen 100

Caltech Longevity Club is hosting a chat with one of Fortune's World's 50 Greatest Leaders.







RSVP to join

PETER DIAMANDIS
Executive chairman of the X Prize Foundation

6 PM
1 hour
Food and Longevity Drinks served

Caltech Longevity Club is honored to announce that **Peter Diamandis**, named one of Fortune's 50 Greatest Leaders in the World, founder and Executive Chairman of XPRIZE, and co-founder and Chairman of Fountain Life, will be joining us for an exclusive event this April.

Bio: Named by Fortune as one of the **World's 50 Greatest Leaders**, he is one of the most prolific entrepreneurs and visionaries in the world today. Founder of over 20 companies, host of the widely followed Moonshots podcast, co-author of the bestselling books *Abundance* and *Bold*, he founded the XPRIZE Founda-

tion, which has launched over \$600M in incentive competitions, awarding teams solving humanity's greatest challenges, from space exploration to longevity to AI. He regularly draws tens of thousands of attendees, and we are proud to host him here. It's a rare opportunity for students and faculty to connect with like-minded innovators, visionaries, and leaders who are actively shaping the future.

Date and time: Wednesday, April 15th at 6 PM at Chen100.

Event sign-up link: <https://luma.com/i1bprpfv>.

LET YOUR VOICE BE HEARD!

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.



THE TECH WANTS TO HEAR FROM YOU!

THE CALTECH JAZZ FESTIVAL

SATURDAY, APRIL 18, 2026

Hameetman Patio 1 to 5pm

1 to 2pm
The Caltech Jazz Band directed by Barb Catlin



3:45 to 5pm
The Chris Wabich Trio with Quinn Johnson, piano & Edwin Livingston, bass



2:15 to 3:30pm
The Joey Navarro Band featuring Brandon Fields, sax



For info: pva.caltech.edu

FOLLOW THE TECH ON INSTA

Keep up with our story updates and exclusive content here!



@THECALFORNIATECH

CLASSIFIEDS

TACIT THEATER ARTS CALTECH presents



ANTON CHEKHOV'S **"Three Sisters"**

A NEW ADAPTATION DIRECTED BY BRIAN BROPHY



APRIL 23, 24, 25 AT 7:30PM
APRIL 26 AT 2:30PM
RAMO AUDITORIUM
CALIFORNIA INSTITUTE OF TECHNOLOGY
TICKETS: tacit.caltech.edu

THE CLASSIC DRAMA - LIKE YOU'VE NEVER SEEN IT BEFORE!



AUDITIONS for

MACH 33

The Caltech Festival of New Science-Driven Plays

Saturday, April 11 | 5 - 7:30pm
TACIT House (275 S. Hill Ave.)

Come at 5pm to audition; you may be asked to stay after your audition to read a scene.

Bring a piece of text of your choice (monologue, poem, etc.)

Rehearsals: May 1-12 | Festival dates: May 13-16

Help bring new science plays to life!

Fun for everyone, including first-time actors!

More info:



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 is 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

EDITORS-IN-CHIEF

Damian R. Wilson

MANAGING EDITORS

Victoria Davis

Emily Yu

PRODUCTION

Alanna Yelland

Ryan Ma

Maya Yie

STAFF WRITERS

Camilla Fezzi

Jieyu Zheng

BUSINESS MANAGER

Jack Myles

Nora Xiao

Victoria Davis

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.

The California Tech #35 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, actually this time! Gift cards sponsored by CalGuesser Benefactor Kevin Kan, but only if you find it before he does!!!**

"On campus" is defined as the convex hull of the buildings shown on caltech.edu/map/campus.

The QR code will be hidden somewhere within the pictured area.

TECH EDITOR'S CORNER

After Fifty Years

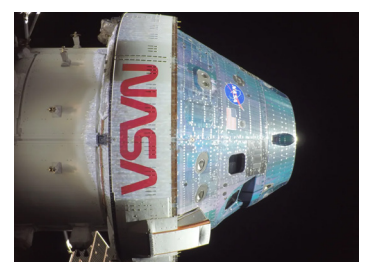
BY WILLIAM FAULKNER

Her house is empty and her heart is old,
And filled with shades and echoes that deceive
No one save her, for still she tries to weave
With blind bent fingers, nets that cannot hold.
Once all men's arms rose up to her, 'tis told,
And hovered like white birds for her caress:
A crown she could have had to bind each tress
Of hair, and her sweet arms the Witches' Gold.

Her mirrors know her witnesses, for there
She rose in dreams from other dreams that lent
Her softness as she stood, crowned with soft hair.
And with his bound heart and his young eyes bent
And blind, he feels her presence like shed scent,
Holding him body and life within its snare.

Copyright Credit: William Faulkner, "After Fifty Years" from *The Mississippians*, December 10, 1919. Public domain.

Source: *The Mississippians* (The Mississippians, 1919)



(Photos: NASA)