

# The California Tech

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## Booth-Kresa Gift Endows Caltech Aerospace Department, Signals New Era of Expansion

**Damian R. Wilson**  
News

Caltech [formally dedicated](#) the Lynn Booth and Kent Kresa Department of Aerospace on April 8, marking the culmination of a \$50 million endowment from Trustee Lynn Booth and Life Member Kent Kresa that permanently names and supports one of the Institute's flagship programs. The gift, [announced in December 2025](#), is intended to sustain Caltech's leadership in aerospace research while expanding its reach into emerging fields such as autonomous systems, hypersonics, and space technology.

At the dedication ceremony outside the Guggenheim Aeronautical Laboratory, faculty, students, and community members gathered to celebrate

what President Thomas F. Rosenbaum described as a "signature achievement" for the Institute. Speakers emphasized both the department's legacy — spanning foundational contributions to aerodynamics, the creation of NASA's Jet Propulsion Laboratory, and advances in robotics — and its future role amid what Kresa called a "new era of explosive growth" in aerospace.

The Booth-Kresa endowment provides broad institutional support, funding new research initiatives, modernizing experimental facilities, and strengthening recruitment and retention of faculty and students. It also establishes fellowship programs for graduate students and postdoctoral scholars, as well as flexible "bridge" funding for high-risk, interdisciplinary projects.

Department leadership has already pointed to new directions enabled by the gift, including work in fluid dynamics, hypervelocity experimentation, and advanced materials. In parallel, ongoing efforts in bioinspired robotics, autonomous systems, and space infrastructure reflect a broader shift toward integrated, cross-disciplinary aerospace research.

For Booth and Kresa, whose longstanding involvement with Caltech shaped the donation, the gift reflects a belief in supporting exploratory, high-impact science. "This is more than a gift — it's an investment in tomorrow," Provost David Tirrell noted, framing the endowment as both a continuation of Caltech's aerospace legacy and a catalyst for its next phase.

The dedication concluded with a ribbon-cutting cere-



Lynn Booth and Kent Kresa stand before the newly dedicated aerospace building. Their \$50 million gift in late 2025 established the Lynn Booth and Kent Kresa Department of Aerospace. (Photo: Chris Flynn/Caltech News)

mony and remarks from JPL Director David Gallagher, underlining the enduring partnership between Caltech and the

nation's space program — now further bolstered by one of the largest gifts in the department's history.

## Student Life and Experience: Caltech Hosts 2026 SLEC Conference

**Emily Yu**  
The Inside World

On Friday, April 17, Caltech held the Student Life and Experience Conference (SLEC) in the Hameetman Multipurpose Room, bringing together students, staff, and faculty to discuss undergraduate life. Several committees presented findings and recommendations based on responses from the SLEC survey sent out in January. To kick off the conference, Joe Ramirez, Institutional Research and Assessment Associate, and Joseph D. Greenwell, Associate Vice President of Student Life, led "A Conversation on Student Life at Caltech."

### Inclusion, Diversity, Equity, and Accessibility

The Inclusion, Diversity, Equity and Accessibility (IDEA) Committee's scope encompassed how institutional practices and campus climate shape underrepresented students' sense of belonging, and how effectively accommodations are implemented to support student success. The committee found a gap between awareness of resources and feeling supported by them, with 44.1% of students reporting being aware of programs and resources. By contrast, 36.2% said those resources meaningfully supported their sense of belonging. They also noted that 34.8% of students were "very satisfied" with the accommodations pro-

cess, compared to 31.9% who were "very satisfied" with implementation in the classroom.

The committee issued four recommendations: a centralized, user-friendly website for Student Affairs departments to create transparency and understanding; a stronger institute-wide IDEA strategy with more undergraduate engagement, including quarterly town halls and a formal IDEA Undergraduate Committee; a more dialogue-driven Student-Faculty Conference with Departmental Executive Officers and Option Representatives participation, along with annual departmental listening sessions in off years; and earlier clarification of course expectations, including whether exams will be in person or take-home, at least three business days before Add Day so students, especially those with accommodations, can plan accordingly.

### Transition to Caltech and First-Year Experience

The Transition to Caltech and First-Year Experience Committee examined the resources and events involved from pre-arrival through first term, including the New Student Handbook, FSRI, International Student Orientation, and orientation week.

A central recommendation was to make orientation more coordinated between programs to avoid redundancy. The committee proposed sep-

arating basic information into an online "Orientation 101," while using in-person "Orientation 201" programming for getting to know offices, peers, and support systems. It also recommended making orientation more engaging through community-building activities, shorter presentations with a focus on student-presenter interaction, and greater involvement by First-Year Caltech Connectors (FCCs).

The committee also emphasized facilitating relationships between students and faculty/staff by helping first-years explore majors through Option Representatives, creating less formal settings for students to meet faculty and staff, and holding "get-to-know-you" events.

### Athletics and Recreation

The Athletics and Recreation Committee presented three main recommendations: helping students better learn about available facilities and how to use equipment, reevaluating the timing and availability of physical education (PE) classes, and improving communication with the campus community.

To improve comfort in using the facilities, the committee suggested more introductory PE classes, work-study opportunities for students to demonstrate equipment use, and facilities walk-throughs for new members. Survey comments

included requests for group machine-exercise lessons and introductory skills programming that would not require a full-term commitment or academic units.

For the timing and availability of PE classes, the committee noted that many offerings meet for 90 minutes on Monday/Wednesday, while many academic courses meet for 60 minutes on Monday/Wednesday/Friday. To better match students' schedules, the presentation recommended adding more PE options from 4 to 6 p.m. and expanding off-campus or outdoor offerings, such as hikes, since campus facilities are often in use by sports teams during those hours.

The committee also noted that athletics facilities users can struggle to navigate recreation information across [caltech.edu](#) and [gocaltech.com](#). Its recommendations included making the website easier to use, particularly for finding recreation hours and available opportunities; creating a monthly or quarterly newsletter; highlighting areas of demonstrated interest such as intramural tournaments and recreational clubs; and using physical signage, such as sandwich boards, outside Red Door on game days.

Prompted by frequent comments, the committee also raised several longer-term ideas, including north field lights, a retractable roof for

the pool, and a possible student-led lighter lifting club in response to survey comments about discomfort in existing workout spaces.

### Community and Alumni Engagement

The Community and Alumni Engagement Committee examined how students connect with off-campus service opportunities, local organizations, and Caltech alumni. Survey data showed that 63% of students reported no involvement in off-campus organizations. The top barriers were time constraints, cited by 80% of students, followed by transportation at 47% and lack of awareness at 45%.

Regarding alumni engagement, survey responses showed strong demand for career-related connections. 79% of students rated career and professional connections as "very important," while about 50% were unaware of the Techer Professional Network (TPN). Students preferred one-on-one talks and career-path discussions over other formats, and 53% reported feeling more connected to the Caltech community after interacting with alumni.

The committee recommended strengthening alumni-student professional connections through a TPN awareness campaign, monthly micro-mentoring sessions, and expanded job

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fairs featuring alumni-founded startups and nontraditional industry partners. Based on student comments about community engagement, it also recommended increasing awareness of K-12 outreach, healthcare and pre-med pathways, and faith-based opportunities. To reduce barriers to participation, the presentation proposed a unified calendar and weekly digest, house representatives to broadcast opportunities, and rideshare micro-grants and scheduled shuttles.

A final set of ideas focused on building a more peer-driven culture of engagement. Since “doing with friends” emerged as a major motivator, those proposals included house-based service socials, inter-house challenges, “bring-a-friend” incentives, visible recognition through badges and exclusive Caltech Y gear, and micro-grants for student-led projects.

**Housing and Residential Life**

The Housing and Residential Life Committee focused on summer storage and move-out logistics, as well as the process for pranks. Survey results showed strong demand for campus-based summer storage, with 40.6% of frosh and 64.1% of upperclass students saying they would be “very likely” to use such an option. The data also showed strong interest in a temporary 48-hour luggage storage space during move-out weekend, with 63.5% of all students saying they would use it.

The proposed solution was a temporary storage pilot using the Hameetman Multipurpose Room, led by staff committee members and student volunteers who register online and sign a liability waiver. Each piece of luggage will require bag tags with contact information, and the results will inform future conversations about on-campus summer storage.

The committee also reported ongoing discussions about possible storage spaces, including the Avery garage and

rooms in the SAC, as well as conversations with a potential contractor, Storage Scholars. It emphasized that future storage systems should consider need, equity, and barriers to access.

On pranks, the committee found that the prank form is underused largely because students are unaware of it. Discussion centered on reframing pranks as something “the whole house is proud of,” creating boundaries around house property, necessitating leaving a note after a prank, and making the Conduct Review Committee process more known and approachable. Proposed solutions included establishing a “Prank Rep” in each house, discussing prank policies during orientation, and publicizing untouchable items.

**Health and Wellbeing**

The Health and Wellbeing Committee examined whether students are able to find, trust, and effectively use health and wellbeing resources. It framed the central problem as navigating the available support systems. A common theme in the survey comments was that

students did not know where to start, describing the resources as scattered, difficult to navigate, and often hidden behind complex processes. Approximately 24% of students reported never using any of the listed health and wellbeing resources, with barriers including lack of time, perceptions that resources are not helpful, self-reliance, and distrust.

The committee’s first recommendation was to create a centralized Health and Wellbeing Hub. Rather than organizing information by office, the hub would organize resources by student needs and include flow-chart navigation, direct links, and “how-to” guides. This recommendation was supported by data showing that only 44% feel prepared to seek support for their well-being after graduation, and students report low confidence in areas such as stress, sleep, mental health, and nutrition.

To make the hub visible, the committee recommended placing QR codes on residence hall doors alongside emergency evacuation information. The goal would be to give students

immediate access to support information in a location they encounter daily.

The second recommendation focused on timing and delivery. Proposals included aligning outreach with student stress cycles, shifting away from one-time orientation exposure, and embedding resources into existing student spaces. One example was moving the annual resource dinner to Weeks 3-4 of Fall term, after students have adjusted but before midterms. Other suggestions included Wellness Fridays and integrating Peer Advocates, Health Advocates, RAs, and house support systems into regular house events.

**What Comes Next**

The conference closed by outlining the next steps for SLEC. A NAS-style report will be written and published on the SLEC website, and community input will be gathered through a post-attendee survey and future process revisions for 2027-28.

# Artemis II Returns Crew to Earth, Demonstrates New Recovery Operations for Lunar Missions

**Damian R. Wilson**  
Science & Tech

NASA’s Artemis II mission [concluded April 10 with a Pacific Ocean splashdown](#), returning four astronauts from humanity’s first crewed journey to the Moon in more than 50 years and marking a critical step toward future lunar landings.

The Orion spacecraft, carrying NASA astronauts Reid Wiseman, Victor Glover, and Christina Koch, alongside Canadian Space Agency astronaut Jeremy Hansen, touched down off the coast of California after a nearly 10-day mission that sent the crew more than 250,000 miles from Earth at its farthest point. The flight set a new distance record for human space travel and served as the first crewed test of NASA’s Space Launch System and Orion capsule.

Following splashdown, Artemis II also debuted a revised recovery strategy. Rather than retrieving the spacecraft inside a ship’s well deck before crew egress, as in the uncrewed Artemis I mission, recovery teams conducted an open-water extraction. Navy divers stabilized Orion using an inflatable collar and platform, allowing astronauts to exit one by one and be airlifted by helicopter to a nearby amphibious recovery ship for initial medical evaluation.

The capsule itself was later secured and transported aboard the vessel. The inter-agency recovery drew on personnel from NASA and the U.S. military, including Navy



NASA’s Orion spacecraft splashes down in the Pacific Ocean off California on April 10 at 5:07 p.m. PDT, concluding a nearly 10-day lunar mission. Recovery teams from NASA, the U.S. Navy, and the U.S. Air Force then begin bringing the crew and capsule aboard the USS John P. Murtha. (Photo: [Bill Ingalls/NASA](#))

divers and Air Force weather specialists, alongside engineering teams from Kennedy Space Center and Johnson Space Center. Additional operations included tracking and retrieving jettisoned hardware such as parachutes and the forward bay cover, enabling engineers to assess system performance for future missions.

Beyond its technical achievements, Artemis II carried significant symbolic weight. The crew described the mission as both a scientific milestone and a shared human experience, stressing its worldwide impact. “We wanted to ... bring the world together,” [commander Reid Wiseman said after returning](#), noting the widespread

public engagement with the flight.

During the mission, astronauts tested life-support systems, conducted manual piloting demonstrations, and gathered data on human performance in deep space — crucial inputs for Artemis III, which aims to return astronauts to the lunar surface. They also captured thousands of images of the Moon and conducted experiments on the effects of microgravity and radiation.

With Orion and its crew safely recovered, NASA is now shifting focus to the next phase of the Artemis program: integrating lunar landers and preparing for sustained human presence on the Moon.



NASA astronauts Victor Glover and Christina Koch speak with NASA Administrator Jared Isaacman aboard the USS John P. Murtha after their recovery from Orion. (Photo: [Bill Ingalls/NASA](#))



Artemis II crew members Reid Wiseman, Christina Koch, Jeremy Hansen, and Victoria Glover pose aboard the USS John P. Murtha after viewing the Orion spacecraft following splashdown on April 11. (Photo: [Bill Ingalls/NASA](#))

**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.

## Our Trip to D.C. — The Life Cycle of the Scientific Idea

**Zoe Read-Brown,  
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Ibrahim Adam**  
The Outside World

*This article was written by members of Science and Engineering Policy at Caltech (SE-PAC).*

Right now, most of us are tunnel-visioned on solving a frontier scientific problem. However, the moment you glance up from your microscope, algorithm, or chalkboard, you realize that this myopic luxury is sustained by a delicate flow of federal funding, agency agendas, and perpetual grant writing. We call this hidden backbone of modern science “the lifecycle of a scientific idea.”

In late 2025, the threads of this lifecycle stretched close to snapping, as many of us felt the impact of cuts to federal agencies, reductions in NSF student grants, and the Trump administration’s attacks on U.S. academic institutions. Shocked, but eager to understand this disruption, 13 graduate and undergraduate students took to Washington, D.C. in December. What follows is an account drawn from reflections on our whistle-stop tour of meetings on Capitol Hill, in the White House, and with lobbyists and agency officials. We hope to show you that, no matter how much of a scientific purist you are, the lifecycle of *everyone’s* work can come under scrutiny — and to help you stay informed when it does.

As researchers, we often imagine that scientific ideas spend most of their lives near us. In reality, we see only a small slice. The process begins at the top: The president proposes a budget, informed by the Office of Science and Technology Policy (OSTP) and external advisors such as the President’s Council of Advisors on Science and Technology (PCAST). That proposal goes to Congress, which holds hearings, revises priorities, and ultimately allocates funding to agencies like the NSF and NIH. The budget then returns to the president for approval. If enacted, agencies distribute funds through grants, overseen by the Office of Management and Budget (OMB). Finally, researchers (like you and your PIs!) write proposals to secure funding and carry ideas forward — at least in the ideal case.

In reality, the links between these steps are fragile. Misalignment between branches of government, agencies, and public priorities can lead to delays, cuts, and inefficiencies that affect everyone touched by science — which is to say, everyone!

Last year, these cracks became more apparent as growing distrust between the scientific community and the federal government began to reshape funding priorities. In response, a group of 13 graduate and undergraduate students — each with their own motivations — joined the Caltech Y’s Science Policy trip to D.C.

Some sought to understand how a system long assumed to be stable could falter. Maria, a fifth-year Ph.D. student in biophysics, reflected: “Federal science funding seemed stable ... but when the administration

changed in January 2025, I became painfully aware of the fragility of a system I had taken for granted.”

Others were alarmed by the deprioritization of research areas such as climate science and the erosion of international collaboration. Myles, a fifth-year Ph.D. student in astronomy, noted that recent policies “contradict decades of research” and have already disrupted work at major universities, pointing to cuts in climate funding, the \$100,000 increase in H-1B skilled worker visa fees for international researchers, and resulting layoffs of graduate researchers. He added that such policies not only hinder essential environmental science — critical in places like California for understanding and mitigating wildfires — but also “actively damage connections to local communities.”

For many, frustration turned into motivation. ChiChi, a third-year undergraduate in applied and computational mathematics, expressed her post-graduation operations as either “a) making a billionaire richer while working in an industry lab,” or “b) having the impact of my work only understood by a select group of experts while working in academia.” She joined the trip to explore paths that could “make tangible, real-world impacts that can be realized by everyday people, especially those in the diverse communities I hail from.”

Zoe, a third-year Ph.D. student in chemistry, reconsidered her own trajectory after losing funding for her research in atmospheric chemistry. “I’ve always been drawn to policy, to making a difference,” she said. “I thought studying sustainability and working in science would do that, but after my funding was cut ... I realized there’s so much more that affects what science gets done and how it affects the public, far beyond the researchers.” She added that this realization pushed her to consider “bridg[ing] the intersection between scientists and policymakers,” though she was still seeking how best to do so.

Together, this diverse coalition set out for D.C., where we met actors across the scientific lifecycle: OSTP staff, OMB analysts, DARPA researchers, FDA regulators, congressional aides, and science lobbyists. We also observed legislative proceedings firsthand from the House gallery.

In conversations with scientific actors, we gained some insight into how decisions are made — but often left with more questions than answers. Our attempts to understand the roots of miscommunication between scientists and the U.S. government, and to identify paths for meaningful change, were largely unmet.

Through meetings with an OMB analyst and congressional staffers, we learned that while they gather evidence to inform decision-makers, they often filter it to fit party platforms. Scientific ideals, it seemed, come second to political agendas set by non-scientists. Even when speaking with the advisors at the seemingly highest level, where lead scientists guide the president on scientific priorities, we researchers felt unrepresented. At the OSTP, discussions “continued to prioritize national security without acknowledging that the best sci-

ence comes from diversity of thought,” reflected Myles.

In the same conversation on the White House grounds, the OSTP emphasized working towards an ideal “meritocracy” by excluding social considerations, “neglecting the resource and opportunity disparities that persist in our society,” leaving “no room for evidence-based research, science results, or critical discourse in the government.” Time and again, our conversations with executive branch actors, even where priorities are set, emphasized political leverage over scientific reasoning.

We also witnessed this dynamic firsthand on the House floor, where members debated a healthcare bill largely by reciting prepared statements — before a chamber that was practically empty! From the White House to Congress, that is, from the top down, advisors and policymakers often fell back on political agendas rather than engaging in genuine, reasoned dialogue. This, we felt, is where the dysfunction lies.

Initially, these experiences left our group deflated. Many of us felt uncertain and disoriented — until, on our final night, we did what political parties seemingly can’t: *talk to each other*. In doing so, we shared our dismay but — more importantly — realized some key takeaways from our trip that gave us hope.

The reality is, while the scientific lifecycle is clearly strained, it remains the system within which we must operate. In the words of one of our undergraduates: “Science is a powerful tool for innovation and development, but science policy is one of the structures that determines who ultimately benefits from that power.”

As scientists, we hope for a direct line to policy that affects our work, yet science is often “filtered” before reaching decision-makers — through congressional staffers, data analysts, and political intermediaries. Across our conversations, Will, a third-year Ph.D. student in aerospace, noticed that “the unifying characteristic ... was effective communication.” To ensure that critical science is prioritized, we must learn to communicate it in ways that resonate with policymakers and constituents — framing ideas so they align with legislative priorities.

At Caltech, we are trained to communicate with other scientists. But to have a broader impact, especially in Washington, we must also learn to “distill complex data into accessible, actionable insights for non-experts,” as a freshman undergraduate who attended realized. This realization brought us back to the question that motivated many of us to take the trip in the first place: How can scientists make an impact?

Over the course of the trip, our answers shifted. Work in Washington is one avenue for change — but not the only one. Amanda, a first-year Ph.D. student in mechanical engineering, reflected that “the framework on the Hill wasn’t where I’d be most effective.” Instead, she saw impact emerging at the individual level: engaging with local governments, making science accessible to her community, and fostering conversations rooted in understanding.

Across the group, one conclusion was clear: scientists have



The group in front of the Capitol (top) and with Rep. Luz Rivas (bottom). Photos courtesy of the authors.

a responsibility to be civically engaged. As an undergraduate trip-leader put it, “every scientist should be politically aware ... so they know how their science is being affected and how their science may affect other people.” The journey of scientific ideas through political systems showed us that “it is no longer enough to produce excellent research”; there is also a “responsibility to ensure that research is translated, advocated for, and integrated into policies that address our most pressing global challenges.”

The sweeping actions toward science taken by the current administration over the past year are atypical but, unfortunately, will have lasting consequences. An FDA scientist told us it has been “hard to recruit and rehire scientists due to uncertainty after mass layoffs.” Representative Luz Rivas warned that “Trump’s detrimental acts on science could take a generation to repair.” Science, however, is fundamentally bipartisan, and its benefits are universal. It is our responsibility to ensure that it can continue.

Returning to Caltech with a renewed sense of civic responsibility, our group decided to revive an organization from several years ago: Science and Engineering Policy at Caltech (SE-PAC).

In its prime, SE-PAC led cam-

pus discussions about science policy and invited speakers to engage the student body on policy issues. Over time, the club faded.

Returning from D.C. with a renewed commitment to scientific advocacy, our group revived this organization with a new, threefold mission:

1. Inspire the Caltech community to participate in informed science policy discussions (and consider the broader context of their work).
2. Educate the community about science communication, policy, and advocacy.
3. Facilitate opportunities to engage with policy stakeholders and take action.

By sharing what we learned on our trip, we take our first step as an organization: hoping to inspire *you* to do the same. Now is the time to act.

Moving forward, we plan to host educational meetings on scientific communication and poster sessions with local officials to help contextualize Caltech’s research for a policy audience.

To learn more or get involved, visit [sepac.caltech.edu](http://sepac.caltech.edu), email [sepac@caltech.edu](mailto:sepac@caltech.edu), or join us at our first event, where we’ll summarize our trip and involve other organizations to share opportunities in science policy.

# CASE Workshop 2026: Beckman Political Award — The Little Italian Girl Heads to Washington, D.C.

**Camilla Fezzi**  
The Outside World

When I think back on my time in Washington, D.C., for the 2026 CASE Workshop, what returns to me first is not a talking point, or a statistic, or even a room. It is motion. It is the feeling of walking being surrounded by students from across the country who had come for the same reason: to understand how science survives in public life. And later, it is the feeling of riding a scooter through Washington at night, the memorials pale and almost unreal against the dark, and the whole city suddenly less like a system and more like a question.

I came to the CASE Workshop expecting to learn how science policy worked. I left feeling that I had brushed against something much larger: the fragility of institutions, the dignity of advocacy, and the belief in research at a moment when belief itself can feel politically contingent. The CASE Workshop is explicitly designed to teach students how science enters policymaking and how they can become voices for research throughout their careers, and it did for me not only intellectually, but on the level of identity.

CASE is not built as a passive conference where students simply absorb information and return home impressed. It is built as a progression: first orientation, instruction, simulation, then public voice. Trust me when I say that it was a lot of work. Held in the Washington area from April 12 to 15, 2026, it brought together around 160 undergraduate and graduate STEM students from nearly 30 states, all sponsored by universities and organizations that believed it was worth sending young researchers into the machinery of federal policymaking.

From the opening evening at the Hyatt Regency Bethesda, there was a palpable current in the room — a mix of nervousness, seriousness, and a kind of moral excitement. In science, one is often taught to admire rigor and explanatory depth; in Washington, one begins to see how much depends on timing, language, coalition, and the willingness to remain articulate under pressure. CASE placed those worlds side by side and made us inhabit the distance between them.

Representing Caltech sharpened the experience for me. Caltech is small and intense, as well as stressful and extremely demanding. But standing in Washington under that institutional name made me understand something I had not fully appreciated before: even the most intellectually self-sufficient scientific community is not politically self-sustaining. No matter how brilliant the lab or how groundbreaking the theory, research still depends on a public architecture of trust and investment. It depends on appropriations bills, agency priorities, stable grant cycles, peer review systems, visa policies, congressional calendars, and the collective willingness of a nation to pay for futures it will not see immediately.

Spring 2026 was not a neutral backdrop. Just days before and around the workshop, science policy news was full of warning signs. AAAS urged lawmakers to reject the admin-

istration's proposed FY2027 cuts to federal R&D, arguing that Congress had already rejected similarly catastrophic reductions for FY2026 and that it was imperative for already-appropriated funds to be used as intended so American science could maintain momentum. The language from AAAS was stark and revealing: funding, they insisted, should be driven by scientific opportunity and possibility, not politics. That sentence stayed with me because it captured the ambient tension of the moment.

And the numbers behind that anxiety were not abstract. In early April, the administration's FY2027 proposal called for massive cuts across major research agencies: roughly a 54% cut to the National Science Foundation, a 47% cut to NASA's Science Mission Directorate alongside a 23% cut to NASA overall, a 28% cut to NIST, a 13% cut to the Department of Energy's Office of Science, and about a 10% cut to the National Institutes of Health; the AIP summary also noted no funding for NOAA's research arm and cuts to basic research elsewhere in the federal system. Reading those figures while sitting in rooms full of young researchers had a particular emotional effect. Budget cuts can sound sterile when written as percentages. In person, they became legible as delayed careers, smaller cohorts, canceled experiments, closed possibilities, and quieter labs.

That is one of the things CASE made visible: the hidden emotional life of policy. Alessandra Zimmermann's presentation on the federal R&D budget process did not sentimentalize anything. We moved through vocabulary that had once seemed remote to me. A continuing resolution, for example, is not merely a bureaucratic placeholder. In practice, it can feel like suspended breath. Labs wait. Hiring slows. Research plans become provisional. Students learn to live inside uncertainty without ever having chosen it. The presentation gave procedural clarity, but it also made visible the way policy becomes mood: hesitation in institutions, caution in investigators, quiet fear among trainees.

The budget negotiation exercise pushed that lesson further by forcing us to experience policymaking as a discipline of compromise rather than a theater of principle. In our simulation, groups of five or six had to produce a Commerce, Justice, and Science appropriations bill that could plausibly pass both chambers and reach the president's desk. The scenarios differed — Democratic control, Republican control, divided government — but the lesson did not. The Senate filibuster threshold, competing party priorities, and the structure of appropriations all meant that no one got to inhabit moral purity for very long. Numbers had to move. Priorities had to be ranked. Gains in one place implied losses in another.

The exercise was sobering. It showed that governance is not the art of designing the best world from scratch; more often, it is the art of preventing damage, preserving capacity, and keeping enough of the future alive to fight for it again later. Scientists are trained to search for the best explanation. Policymaking often asks for the

most survivable outcome. To feel that difference from inside a negotiation, even a simulated one, was to understand why advocacy requires stamina as much as conviction.

Toby Smith's session made the cultural dimension of that challenge unforgettable. He described the divide between science and politics not simply as a disagreement over facts, but as a difference in habits of mind. Scientists are rewarded for precision and evidence. Politicians must navigate constituency, timing, narrative, and perception. Smith's genius as a speaker was that he did not reduce either side to caricature. Instead, he treated translation as a form of respect. His phrases were practical enough to write down and durable enough to remember: all politics is local; all politics is personal; data is good, but stories are better; language matters. Smith helped me understand that storytelling, when done honestly, is not a betrayal of rigor. It is one of the forms rigor must take when it enters democratic life.

Glenn O'Neal's talk added another essential dimension: visibility. He spoke about public opinion, trust, and the strange paradox that science can be widely valued and yet remain oddly faceless. He noted that most Americans support basic research and many trust scientists, but far fewer can name a living scientist or a research institution. The gap suggested that support for science, though real, can remain abstract unless people are able to connect research with human beings, voices, local communities, and shared futures. His insistence that scientists must "put a face on research" stayed with me because it made advocacy feel more like presence. Show up. Speak plainly. The idea was simple, almost embarrassingly simple, and maybe that is why it struck so deeply. If research is always represented as a system and never as a life, then its losses are easier to ignore.

By the time we reviewed the congressional visit materials, the workshop's deeper logic had come into focus. They were teaching us how to convert private intellectual formation into public testimony. We were told to explain that we were among 160 STEM students who had come to learn about the role of science in policymaking, and to communicate that disruptions and uncertainty are hurting the scientific community and damaging American competitiveness. That phrasing was precise. The documents pointed to grant freezes, staffing disruptions, canceled funding, and the disproportionate damage such instability can inflict on students and early-career researchers. They also framed the issue in strategic terms: for more than 75 years, federal investment in research and development has helped build American prosperity, and that model cannot be treated as self-renewing. When I read those materials, I felt the strange compression that advocacy creates. One has to carry enormous systems inside small sentences.

What gave those sentences even more force was the broader evidence accumulating outside the workshop rooms. The AIP science policy update reported that NSF and NIH were lagging dramatically in grant awards, with NSF making



awards at only a fraction of typical levels and NIH also well below previous years. At the same time, OECD data noted in that same briefing indicated that, adjusted for purchasing power parity, China had surpassed the United States in gross domestic spending on R&D in 2024. That combination — internal slowdown and external competition—felt like the atmospheric pressure around everything we were learning.

For me, as an international student, this context had another layer. It is one thing to study in the United States and admire its research culture from within the university. It is another to stand in its capital, during a moment of funding anxiety and political volatility, and feel how intimately national policy can press against private ambition. To be an international student in American science is often to live inside two stories at once. One is aspirational: the United States as a place where intellectual seriousness is rewarded, where laboratories are alive with possibility, where discovery has scale. The other is conditional: opportunity exists, but it is mediated by rules, politics, paperwork, and the moods of institutions. Washington made both stories visible at the same time.

That may be why one of the most powerful parts of the trip happened outside the formal program. One night, after hours of policy slides and strategy and budget talk, I traveled around D.C. on a scooter. Moving past the memorials, I felt very far from home and very close to something I had wanted for a long time: the feeling of having crossed into a life I had once only imagined from elsewhere. When people say "the American dream," the phrase can sound worn-out and theatrical. But on that scooter, I un-

derstood why the phrase survives. Not because America is uncomplicated or generous by default. It is not. But because it remains, for many people, a place where aspiration takes institutional form — where libraries, laboratories, fellowships, and universities create the possibility that an ordinary person from elsewhere might enter history not only as an observer, but as a participant. That is an emotional fact, even while also a precarious one.

I remember slowing down near the memorials and feeling a sudden fullness in my chest. Nothing dramatic happened. But I felt, with unusual clarity, that my life had crossed some invisible threshold. The workshop had taught me how research is funded, narrated, negotiated, defended. The city, that night, taught me why those things mattered to me personally.

Part of what made the moment so intense was the contrast between grandeur and uncertainty. The memorials suggest endurance. They are built to outlast administrations, headlines, and human impatience. But the science policy conversations of the week had been filled with shortfalls, delays, reversals, and threats. I thought about young researchers waiting on grants, faculty trying to keep projects alive, staff in congressional offices reading briefing memos, and students abroad deciding whether the United States still felt like the right place to build a future.

And yet the trip did not leave me cynical. If anything, it did the opposite. What I brought back from CASE was a more adult form of hope. Hope, as the workshop taught it, is not optimism detached from structure. It is disciplined attention joined to action. It is knowing

that appropriations are messy, public opinion is unstable, language matters, and still deciding to show up prepared. It is realizing that the work of defending research is not only the work of famous scientists or senior administrators; it can also belong to students, post-docs, trainees, and those still learning how to speak in public without sounding smaller than what they know. Advocacy is part of how science remembers that it belongs to the public. It is part of how researchers honor the systems that make discovery possible. I felt called into a larger responsibility: to do serious science, yes, but also to speak for the conditions that allow serious science to exist.

I came to Washington as a young scientist still learning what public life asks of intellectual work. I left with a sharper sense of the time we are in: a time of remarkable scientific possibility and equally remarkable institutional strain; a time when the United States is still one of the world's great homes for research, but no longer able to treat that status as inevitable. CASE gave me tools, language, context, and confidence. But the truest thing it gave me was a scene I will keep returning to: Washington at night, the memorials standing in their white stillness, and me passing through on a scooter with all the fear, ambition, gratitude, and unfinished hope that a life in science can hold.

Thank you immensely, Caltech Y, for the honor of the Beckman Political Award.

*All photos courtesy of Camilla Fezzi.*



# Caltech Wildlife: Butterflies

**Jieyu Zheng**  
Column

It's springtime, with blooms everywhere, and who wouldn't appreciate a pair of colorful wings dancing in front of their eyes? In this issue, your avian specialist takes a small detour and presents some butterfly species on campus. While I haven't surveyed the area thoroughly, there is a surprisingly rich collection of butterflies here, thanks to the variety of exotic flowers and plants. Once you start paying attention, the air itself feels a little more animated. Here are some that I have seen:

The mourning cloak sounds like an elegant name for an assassin. And surprisingly, they are native across much of the Northern Hemisphere, carrying equally elegant names in different languages. In English alone there are a few nicknames. In the U.K., they are called the "Camberwell beauty," named after the biologist that discovered them. They also have an older name, "big sur-

prise" — perhaps inspired by the striking contrast between the yellow rim and their otherwise dark cloak, or simply by how unexpectedly they appear across such a wide range of the world.

Unlike most butterflies, which live only days to weeks after metamorphosis, mourning cloaks can survive up to 12 months. That longevity makes them feel almost mythological, like Greek gods that refuse to age. Under the California sun, when temperatures rise, they spread their dark wings to absorb heat, and for that reason they are often among the first butterflies to appear in early spring.

If the mourning cloak is a philosopher of time, the orange sulphur butterfly belongs to a much faster rhythm. Its bright, light-hearted color fits perfectly with spring. These butterflies live at a fast pace, moving through their life cycle almost impatiently. Males and females distinguish each other using ultraviolet light. During the busy breeding season, a female or-

ange sulphur flies in quick, erratic bursts close to the ground, pairs with multiple eager males, and will then lay hundreds of eggs. I suppose their parents don't have to complain and rush her into marriage.

The gulf fritillary is larger and more vividly colored than the previous two species. Their bright orange wings make them easy to spot, but the color is not just for aesthetics. These butterflies deploy chemical defenses at predators and eat passion vines that make them toxic. As a result, birds quickly learn to respect the signal. Their orange becomes a far more effective warning label than the California Proposition 65 notice on your chips. They are also called passion butterflies, because their caterpillars rely solely on passion vines as host plants. Their presence in Southern California is much because of our gardening preferences.

Another orange butterfly — the monarch butterfly — is perhaps the most famous of them all, and they can be seen on campus as well. Their slow, de-

liberate wingbeats carry a different kind of story. Monarchs are known for their long-distance migration from Canada to Mexico, where a single "super generation" travels thousands of miles south over the course of months. Their descendants then make the return journey north in stages the following spring. For them, Caltech is just a temporary stop along a long trajectory. Still, any stop for fuel matters, just like for many of us here that are fueling up at Caltech for the next important stage of life.

Lastly, the western giant swallowtail is my personal favorite, perhaps because it was my first model for wildlife photography. On a sunny afternoon in July 2024, when I had just gotten my camera, I rushed outside with unreasonable excitement to test it.

The sun was scorching and most birds had retreated into the shade, but a giant swallowtail landed right in front of me among yellow flowers along Moore Walk. As the largest butterfly in North America, it is

almost the size of a hummingbird, and the delicate swallowtail extensions on its wings add even more elegance. Since spotting the first swallowtail, I have started to pay more attention to insect life and even made peace with caterpillars (though I still keep a respectful distance towards their eerie wiggling bodies).

Butterflies, just like birds to those fast-walking Caltech people, often escape our attention simply because we are not looking for them. But try to practice tuning your attention to the language of Nature around us. Even within a five-minute walk from the parking lot to your office, you can still catch fleeting sounds of birds and shadows of butterflies. They remind us that even in our life filled with manuscripts, p-sets and grant deadlines, there are other on-going missions that are equally important.

*All photos by Jieyu Zheng.*



*The mourning cloak has an elegant name and is less extravagant than the other butterflies, but they hang out for a long time.*



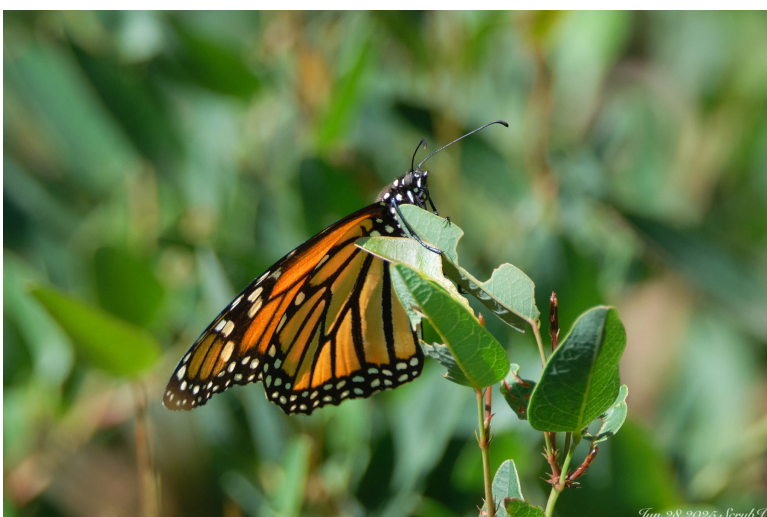
*The orange sulphur looks cute and innocuous, but is also one of the biggest enemies to alfalfa. They are also called alfalfa butterflies.*



*A pair of gulf fritillaries showing you a contrast of their dorsal and ventral views.*



*Western giant swallowtails have blue and red stripes on the ventral side.*



*A monarch butterfly is fueling up for its long journey.*



*The western giant swallowtail is the largest butterfly in the United States!*

## A Penumbra of Human Mind

**Nima Ghaderi**  
Culture

That soothing strip  
Of human mind.

That whisper of echoes  
Of from beyond.

That rose that rotates  
Of red petals.

That emergence  
Of light from dark.

That asymptote  
Of familiar tones.

That lovely boundary  
Ushering forth.

That special you  
In your gaze and hues.

Fathomed to  
Through and true.

Under the sun, the moon,  
The spring and its dews.

CALTECH LONGEVITY CLUB PRESENTS

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## 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](http://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

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# The California Tech #36 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](http://caltech.edu/map/campus).

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

## TECH EDITOR'S CORNER

On April 18, as part of MIT's Campus Preview Weekend, Tim of MIT and Bernoulli of Caltech were joined in holy matrimony. The ceremony was officiated by a licensed officiant and accompanied by a string quartet.

May their love be rich and long.

### The Wine of Love

By JAMES THOMSON (BYSSHE VANOLIS)

The wine of Love is music,  
And the feast of Love is song:  
And when Love sits down to the banquet,  
Love sits long:

Sits long and ariseth drunken,  
But not with the feast and the wine;  
He reeeth with his own heart,  
That great rich Vine.



(Photo: Claire Wang)