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UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

NEETA THAKUR, et al.,

Plaintiffs,

vs.

DONALD J. TRUMP, et al.,

Defendants.

Case No. 3:25-cv-04737-RL

PLAINTIFFS' RESPONSE TO ORDER TO SHOW CAUSE

Judge: The Honorable Rita F. Lin

I. INTRODUCTION

On June 23, this Court issued a preliminary injunction preventing the National Science Foundation (NSF) from cutting off funds to two classes of University of California researchers. NSF did not seek a stay of this Court's order in the United States Court of Appeals, although the other defendants did so. In two letters to the Chancellor of UCLA, dated July 30 and August 1, NSF indefinitely suspended hundreds of millions of dollars of grants to members of both classes of researchers at the University of California. It has done so without meeting the requirements of the Administrative Procedure Act (APA) or of the Constitution. An indefinitely suspended grant is indistinguishable from a terminated grant. The research must stop; labs must close; graduate students and post-doctoral researchers must find other jobs. Instead of providing individual letters with reasoned explanation for the basis for each decision—as the APA and this Court's order require—NSF sent just two letters and an attachment with a long list of suspended NSF grants. This *en masse* indefinite suspension of grants is a clear violation of this Court's preliminary injunction. Plaintiffs request that this Court enforce its preliminary injunction and order reinstatement of the grants to all members of both classes protected by its order.

II. THE INDEFINITE SUSPENSION OF GRANTS TO UCLA RESEARCHERS VIOLATES THE COURT'S PRELIMINARY INJUNCTION.

This Court issued a preliminary injunction against NSF (as well as the National Endowment for the Humanities and the Environmental Protection Agency) to prevent termination of grants to two designated classes of researchers at the University of California. This Court explicitly said: "This relief applies on a prospective basis. While this matter remains pending any future grant terminations by Agency Defendants meeting the above criteria are vacated upon issuance, and the Agency Defendants are enjoined as to those terminations in the manner stated above." Preliminary Injunction at 2-3 (June 23, 2025), Dkt. No. 55.

Yet, in the July 30 and August 1 letters, NSF indefinitely froze hundreds of grants to researchers at UCLA. *See* Pls.' Letter Br. (Aug. 4, 2025), Dkt. No. 78 ("Letter Br."). In doing so, NSF claimed for the first time that the awards were not aligned with current NSF priorities and/or programmatic goals (*See id.* Ex. 2 ("July 30 Letter"), Dkt. No. 78-3), and accused UCLA of

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noncompliance with federal statutes and regulations and the terms and conditions of federal awards, all because UCLA allegedly adhered to "illegal" "affirmative action" policies, failed to do enough to combat "antisemitism and bias" on campus, and "discriminat[ed]" against women by allowing the participation of transgender athletes. *See id.* Ex. 3 at 2 ("August 1 Letter"), Dkt. No. 78-4. Hundreds of millions of dollars of grants were indefinitely suspended without a semblance of due process and without any meaningful consideration of the reliance interests of the UCLA researchers.

Defendants do not dispute that the grants were indefinitely suspended to researchers at UCLA who are members of the classes certified by this Court. Nor do they deny that NSF was enjoined by this Court from "any future grant terminations." Instead, the government argues that the "Preliminary Injunction should not be extended to cover suspensions." NSF's Suppl. Br. at 1:3 (Aug. 7, 2025), Dkt. No. 82 ("NSF's Suppl. Br."). But Plaintiffs do not seek to extend this Court's preliminary injunction. They just seek to enforce it.

The "indefinite suspensions" at issue are indistinguishable from the terminations enjoined by this Court. *See* Pls.' Letter Br. at 2. Research must stop, with all of the accompanying irreparable harms this Court identified in issuing its preliminary injunction. Order at 47-48 (June 23, 2025), Dkt. No. 54 (*Thakur v. Trump*, No. 25-cv-04737-RFL, 2025 WL 1734471 (N.D. Cal. June 23, 2025) ("Order"). Consider, for example, the public statements of Dr. Terrence Tao, a UCLA mathematician and Fields Medal recipient. *See* Decl. of D. Silva in Supp. of Resp., filed herewith, at ¶ 2, Ex. 1 (Jonathan Cohn, *He's the "Mozart" of Math and Trump Killed His Funding*, thebulwark.com (Aug. 8, 2025)). Dr. Tao's NSF-funded research has transformed MRIs, by reducing the amount of time patients spend inside the machines, enabling physicians to diagnose conditions more accurately, and allowing hospitals to run more efficiently. Dr. Tao has relied on NSF grants to fund graduate student researchers in his lab and to fund UCLA's Institute for Pure and Applied Mathematics. He explains that as a result of the grant suspensions, the Institute "now only has enough emergency funding for a few months of further operation at best." *Id.* As Dr. Tao explains, "[t]he damage on graduate students is more direct." *Id.*

Professor Karen McKinnon, whose grant was likewise indefinitely suspended, has had a

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similar experience. Professor McKinnon's work focuses on large-scale climate variability and change, with a particular emphasis on connections to high-impact weather events. Decl. of K. McKinnon in Supp. of Resp., filed herewith, at ¶ 4 ("McKinnon Decl."). She received a prestigious five-year CAREER grant to study increases in global heat extremes. *Id.* ¶ 5. As a result of the grant's indefinite suspension, this important work—which, per NSF, "reflect[ed] NSF's statutory mission and has been deemed worthy of support through evaluation using the Foundation's intellectual merit and broader impacts review criteria"—cannot continue. *Id.* ¶ 8. One postdoctoral researcher previously funded by the grant has now been moved to a different project. *Id.* at ¶ 12. Another postdoctoral researcher expected to join the team was forced to abort her visa process as a result of the grant suspension and has now accepted work with a different employer. *Id.* A graduate student is continuing her grant-related research by diverting unrecoverable funds from another source, which comes at a considerable opportunity cost. *Id.* As Professor McKinnon explains: "In many ways, there is no meaningful difference between a termination and an indefinite suspension. Both result in significant disruption and lost opportunities." *Id.* ¶ 13.

Professor Aradhna Tripati's grants were also indefinitely suspended. Decl. of A. Tripati in Supp. of Resp., filed herewith, at ¶¶ 19-20, 25-26 ("Tripati Decl."). Professor Tripati has received numerous awards for her work, including NSF's CAREER award. *Id.* at ¶¶ 4, 7. In 2019, NSF issued her a notice of award for a project to develop solutions to environmental challenges in the Southwestern United States, including gathering data on the water issues facing Indigenous communities. *Id.* at ¶¶ 12-14. In June 2023, NSF also issued her a notice of award for a project to enhance veteran participation and leadership in STEM fields. *Id.* at ¶¶ 21-22. Both grants were suspended effective July 31, 2025. *Id.* at ¶¶ 20, 26. As a result, Professor Tripati's team has suffered immediate harm, including an inability to complete research and to support STEM research performed by veterans. *Id.* at ¶ 27. She has had to spend significant time seeking alternate funding, and she may need to lay off several members of her research team. *Id.* Further, these harms are in addition to the loss of value to the public from her research, such as creating opportunities for veterans in STEM research. *Id.*

The reality is that for UCLA researchers, there is no difference between a termination and

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an indefinite suspension: both can last forever. If NSF's argument is accepted, the government can easily circumvent this Court's preliminary injunction by simply labelling any cutoff of funds as an "indefinite suspension" and not using the word "termination." Yet the effect on class members is essentially identical.

The indefinite suspension of grants by NSF to members of the certified class violates this Court's order. This Court explained why Plaintiffs are likely to succeed on the merits on their claim that "*en masse*" termination of grants violates the APA as being arbitrary, capricious, and an abuse of discretion: "The law requires administrative agencies to provide reasoned explanations for their decisions, particularly when changing a longstanding practice and abruptly ending years of planning and work. The form termination letters here appear to be in blatant violation of that requirement." Order at 2.

The two letters to the Chancellor at UCLA, with an appendix consisting of a large list of grants that are being indefinitely suspended, constitute an *en masse* action without even an attempt to offer a reasoned explanation for why a *specific* grant is being terminated. This Court explicitly pointed to the lack of "individualized review" in explaining that Defendants likely violated the APA. Order at 28. A letter to the Chancellor with a long list of grant numbers, as here, is the antithesis of individualized review, and conclusory statements about UCLA's actions are not sufficient to meet the requirements for reasoned explanations under the APA and this Court's Order. Nor does a bald assertion that reliance interests were "outweighed" by the government's interests demonstrate that reliance interests were actually taken into account as the law requires. It is clear that the Trump administration's action of indefinitely suspending hundreds of millions of dollars of grants is to punish UCLA.[1] The purported justifications in the letters are a mere pretext.

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[1] Dylan Decl. ¶ 3, Ex. 2 (*Trump Wants U.C.L.A. to Pay $1 Billion to Restore Its Research Funding*, New York Times (August 9, 2025), https://www.nytimes.com/2025/08/08/us/trump-ucla-research-funding-deal.html).

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III. THE GOVERNMENT'S ARGUMENTS ARE UNPERSUASIVE.

A. UCLA Researchers Are Members of the Classes Protected by the Court's Preliminary Injunction.

This Court expressly found that the Plaintiff researchers "satisfy the Rule 23(a) requirements of numerosity, commonality, typicality, and adequacy, as well as the Rule 23(b) requirements." Order at 53. Defendants now argue that the "suspensions cannot be added to the class definition because commonality, typicality, and adequacy do not support their inclusion." NSF's Suppl. Br. at 2:11-12. But Plaintiffs do not seek to add anything to the class definition. Defendants point to nothing that has changed as to this Court's conclusions with regard to numerosity, commonality, typicality, and adequacy.

In fact, *how* NSF has indefinitely suspended the grants to UCLA researchers shows the fundamental flaw in the government's argument. NSF has used two generic letters to the UCLA Chancellor as the basis for terminating hundreds of grants. This, itself, shows that NSF sees commonality among these grants.

Moreover, if the government is correct in its argument that there are differences among the grant recipients, that is exactly why there must be individual letters to each grant recipient under the APA explaining the basis for termination—just as this Court held. The commonality is the lack of individualized reasoned explanation as the APA requires.

Plaintiffs are insisting on individualized treatment, as required by the APA and due process. The uniform and undifferentiated nature of Defendant's conduct toward the class is precisely the basis for the typicality of the claims and the commonality of the legal and factual questions to be answered in adjudicating them.

As to the Rule 23 commonality requirement, the Ninth Circuit explained in *Parsons v. Ryan*, 754 F.3d 657, 688 (9th Cir. 2014), that "the text of the rule makes clear, this inquiry asks only whether 'the party opposing the class has acted or refused to act on grounds that apply generally to the class.'" (citation omitted). That, of course, is exactly the situation here: NSF has indefinitely suspended grants for all of the UCLA researchers who are part of the two classes certified by this Court. *See also Rodriguez v. Robbins*, 715 F.3d 1127 (9th Cir. 2013) (affirming

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class certification and explaining that any differences among the plaintiffs justified individualized determinations, not dismissal of the classes or dissolving the injunction.)

B. As This Court Previously Ruled, the Plaintiffs Have Standing.

This Court explicitly found that Plaintiffs have standing. Order at 41-47. The government, though, repeats its objection to standing and says, "[n]o named plaintiff purports to have a grant suspended by NSF following a determination by the Administration that UCLA engaged in discriminatory practices." NSF's Suppl. Br. at 5:3-5.

But this confuses the issue of standing with the question of class certification. The named Plaintiffs include individuals whose grants were terminated by NSF in violation of the APA and the First Amendment. The named Plaintiffs were found by this Court to have suffered an injury caused by Defendants and likely to be redressed by a favorable court decision. Order at 41-47. The Plaintiffs have been deemed class representatives for all University of California researchers who are in the two classes certified by this Court. That satisfied the requirements for Article III standing. There is not a requirement for standing that a named plaintiff be a UCLA researcher who has a grant terminated or indefinitely suspended by NSF. There are thousands of members of the classes; it cannot be that the NSF can terminate grants to those who are not named plaintiffs. That belies the whole purpose of a class action suit.

The government says that "named plaintiffs also lack standing to assert UCLA's rights." NSF's Suppl. Br. at 6:12. But Plaintiffs are not doing so. They are simply seeking to protect members of the two certified classes: researchers whose grants have been cut off in violation of the APA and the First Amendment.

C. This Court Has Jurisdiction.

The government argues that the "filing of a notice of appeal generally divests the district court of jurisdiction over the matters appealed." NSF's Suppl. Br. at 6:20-21. It should be noted here that the government did not seek a stay of this Court's orders against the NSF. But more importantly, the government is simply wrong as to the law. A district court may enforce its preliminary injunction while an appeal is pending. In *A&M Records, Inc. v. Napster, Inc.*, 284 F.3d 1091, 1098-99 (9th Cir. 2002), for example, the Ninth Circuit affirmed the terms and

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enforcement of a modified preliminary injunction pending appeal, explaining that "Federal Rule of Civil Procedure 62(c) . . . authorizes a district court to continue supervising compliance with the injunction." *Id.* at 1099 (citations omitted) (citing Fed. R. Civ. P. 62(c): "When an appeal is taken from an interlocutory or final judgment granting, dissolving, or denying an injunction, the [district] court in its discretion may suspend, modify, restore, or grant an injunction during the pendency of the appeal . . . as it considers proper for the security of the rights of the adverse party."); *see also id.* ("The district court properly exercised its power under Rule 62(c) to continue supervision of Napster's compliance with the injunction.").

IV. EVEN IF NSF IS NOT TECHNICALLY IN VIOLATION OF THE INJUNCTION ORDER, THE PRELIMINARY INJUNCTION SHOULD BE MODIFIED TO ENJOIN THE INDEFINITE SUSPENSIONS OF GRANTS.

While Plaintiffs maintain that no modification of the injunction order is necessary, this Court has the inherent authority and discretion to modify or clarify the scope of its Preliminary Injunction. *See A&M Recs., Inc.*, 284 F.3d at 1098 ("A district court has inherent authority to modify a preliminary injunction in consideration of new facts."). To the extent the Court deems any modification necessary, the Court may do so in light of the significant public interests and irreparable harms caused by NSF's conduct. This is fully consistent with the Court's objectives to (1) prevent the Agency Defendants from ceasing funding by way of notices that neither provide *grant-specific* explanations, nor meaningfully consider the reliance interests at stake; and (2) stop the Agency Defendants from leveraging their funding power to penalize disfavored viewpoints. *Inst. of Cetacean Rsch. v. Sea Shepherd Conservation Soc'y*, 774 F.3d 935, 949 (9th Cir. 2014) (holding it is proper to consider the objective of the preliminary injunction).

V. CONCLUSION

NSF's indefinite grant suspensions are *de facto* terminations that violate the plain language and clear purpose of the Preliminary Injunction. Plaintiffs respectfully request that the Court enforce the Preliminary Injunction, order that NSF restore the grants to UCLA researchers, and enjoin NSF from suspending the UCLA grants at issue during the pendency of this litigation.

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Dated: August 11, 2025

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UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

NEETA THAKUR, et al.,

Plaintiffs,

vs.

DONALD J. TRUMP, et al.,

Defendants.

Case No. 3:25-cv-04737-RL

DECLARATION OF DYLAN M. SILVA IN SUPPORT OF PLAINTIFFS' RESPONSE TO ORDER TO SHOW CAUSE

Judge: The Honorable Rita F. Lin

I, Dylan M. Silva, declare as follows:

I am a member in good standing of the State Bar of California and the bar of this Court. I am an associate of Farella Braun + Martel LLP and represent all Plaintiffs in this action. I respectfully submit this declaration in support of Plaintiff's Response to Order to Show Cause. I have personal knowledge of the facts set forth in this declaration, and could testify competently to them if called upon to do so.

1. Attached as **Exhibit 1** is a true and correct copy of an August 8, 2025 article by Jonathan Cohn titled *He's the "Mozart" of Math and Trump Killed His Funding*, available at thebulwark.com/p/terence-tao-ucla-mathematician-mozart-of-math-trumpfunding-nsf.

2. Attached as **Exhibit 2** is a true and correct copy of an August 9, 2025 New York Times article titled *Trump Wants U.C.L.A. to Pay $1 Billion to Restore Its Research Funding*, available at https://www.nytimes.com/2025/08/08/us/trump-ucla-research-funding-deal.html.

I declare under penalty of perjury under the laws of the State of California and the United States that the foregoing is true and correct.

Executed this 11th day of August, 2025, in San Francisco.

By: /s/ Dylan M. Silva
Dylan M. Silva

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Exhibit 1

He's the 'Mozart' of Math and Trump Killed His Funding

thebulwark.com/p/terence-tao-ucla-mathematician-mozart-of-math-trump-funding-nsf

Jonathan Cohn August 6, 2025

TERENCE TAO MAY BE ONE OF THE SMARTEST human beings on the planet. That's not an exaggeration.

Now a UCLA professor, Tao has been a mathematics superstar for pretty much his entire life, going all the way back to the early 1970s when he was a 2-year-old with building blocks showing the other kids how to count. He was 7 when he started calculus, 13 when he became the youngest person ever to win the International Mathematical Olympiad, and 19 when he started his Ph.D. at Princeton.

Tao's work on prime numbers has provided crucial insights into random-number generation, which is the way computers produce the (nearly) unpredictable figures that are necessary for cryptography and cybersecurity. His research into the math of imaging has helped to make MRIs faster and smarter.

In 2006 Tao was awarded the Fields Medal—math's equivalent of the Nobel Prize, as anyone who has watched *Good Will Hunting* knows. In 2017, *National Geographic* included Tao in its "Genius" issue alongside Michelangelo, Darwin, and Einstein. And among his many admirers Tao is known as the "Mozart of Math"—a term of affection in a sometimes cutthroat world, where Tao has a reputation for mentoring young, still undiscovered scholars and sharing credit generously.

He is pretty much the platonic model of an intellectual, innovator, and teacher—the best of America, in so many ways. And now he's a cautionary tale too, because he just lost his funding in the latest wave of Trump administration cuts. It has left him questioning the future of American STEM research, and his place within it.

"A year ago I was absolutely sure I would be staying at UCLA for the foreseeable future," Tao told me. "But now that there are existential risks . . . I cannot make any long-term predictions."

The wave hit on Sunday, when

federal agencies including the National Science Foundation notified UCLA that they were summarily—and indefinitely—suspending federal research grants. That translates to hundreds of millions of dollars in lost support, according to a tally being kept by the volunteer organization Grant Witness.

Among the suspended grants is one that effectively funds graduate-student researchers in Tao's lab. Another is for UCLA's Institute for Pure and Applied Mathematics, with which Tao has worked closely and where he is set to become director of special projects.

The institute is one of six around the country that NSF funds for the specific purpose of convening discussions among researchers from different disciplines. It recently received "preliminary approval" for five more years of NSF backing, Tao explained in a social media post. But with the suspension in place, Tao said, the institute "now only has enough emergency funding for a few months of further operation at best."

The ostensible, official reason for the UCLA suspensions, Chancellor Julio Frenk told the university community in an open letter, is the same one the Trump administration has cited when cutting off funds to Columbia, Harvard, and other high-profile universities. The schools, according to the administration, have violated civil rights law by failing to combat antisemitism on their campuses.1

UCLA was the site of a major pro-Palestinian encampment—one that police eventually broke up and that remains the subject of controversy, on and off campus. But another, morelikely explanation is that UCLA was guilty of simply being a major university at a time when the Trump administration has been systematically slashing funds to such institutions—out of a desire to punish leftist academics, or to silence a source of independent thought, or maybe just to reduce federal spending.

After all, these targeted rescissions for schools like UCLA aren't happening in isolation but alongside broader cuts at NSF, the National Institutes of Health, and other funding agencies. These cuts have brought federal support for scientific research to its lowest level in decades, according to a *New York Times*analysis.

Tao is in a privileged position, as a rock star in his field and a recipient of its highest honors: He can raise money from private sources in a way few other scholars can. But he worries about the effects Trump's cuts will have on the broader research community—and says he knows, firsthand, just how critical government support can be.

AS AN EXAMPLE, TAO POINTED TO his research on "compressed sensing"—which, crudely speaking, is about how to produce sharper, more detailed images with less data than older technologies required. That research has transformed MRIs, in part by reducing the amount of time patients have to spend inside those giant, noisy machines.

"A scan which used to take, say, three minutes takes just thirty seconds now and this is particularly important when imaging young kids, who are often very restless," Tao noted. "In the past, we had to actually sedate the kids to get them to stay long enough for the MRI scan to complete."

Compressing the time for an MRI isn't just about helping kids make it through what can be a frightening experience even for adults. It's also about enabling hospitals to run more efficiently, not to mention allowing physicians to diagnose conditions more accurately. And there have been spillover effects to other fields: Astronomers and seismologists came to realize Tao's math could help them understand and improve methods they were already using in their work.

None of this might have happened without support for theoretical research and collaboration across disciplines, the kind that agencies like NSF have traditionally funded—and that the private sector won't sustain on its own, because the work is too risky and open-ended.

"The actual machines that introduced this technology were developed by Siemens and Philips and LG, and all the major industry leaders," Tao told me. "But they didn't invest in the basic research to do this, because they didn't know that it was even feasible. It [the companies' investment] was only after there was this public academic literature saying that, yeah, this is theoretically possible."

"The private sector is very good at the 'last mile' of innovation," Tao added. "But if the private sector wants to spend money on developing technology, they want some assurances that there's going to be a high chance of it working to begin with."

TAO WAS JUST AS EMPHATIC about the importance of government supporting researchers, especially those who—unlike him—have yet to make a mark on their fields.

"Research is not really led by superstars as much as you think," Tao said.

> You go on a safari, and maybe you see the lions, the tigers, and the really big game, and you think that these are the most important animals in the ecosystem. But there are a lot of smaller animals and plants and insects that are completely essential, and they all interact with each other. . . . You have to support the entire ecosystem. The leaders themselves, if they don't have the people around them to interact with, they're going to be a lot less effective.

And that's to say nothing of what young researchers might produce on their own in the future, Tao pointed out—something he said he knows from his own experience. "I was just a fresh graduate student—I was nobody—but I was invited to participate in this program in my field, which had a couple dozen people, experts, senior people, and junior people, giving talks, talking to each other," Tao said. "This institute, which was NSF-funded, provided the location and gave some housing support. We had teas where we would socialize. I learned a lot of math and made a lot of long-term connections, and basically it launched my career. I wouldn't have the Fields Medal work, basically, if I didn't have these initial contacts and networking."

And the next generation of researchers might not get those kinds of opportunities, Tao worries, thanks to Trump administration cuts.

“The damage on graduate students is more direct,” he said,” because these students—they haven’t done blockbuster work yet by and large. It’s their future selves who are going to do all that great work. But you won’t see that if they’re so discouraged that they drop out now.”

TAO WAS CAREFUL IN OUR INTERVIEW to say that he wasn’t offering an opinion on the substance of the Trump administration’s antisemitism charge—or on its motives, for that matter, though he noted a certain irony of cutting off funds while claiming to strengthen the university’s research environment.

But Tao had plenty to say about the way the administration carried out the suspension—with a sudden shutdown that, he said, seemed designed to be “maximally disruptive and punitive.” And that process itself could have a chilling effect on research, Tao warned.

“Until very recently, there was a certain predictability” to the American system, Tao said, and “we very much implicitly relied on it to make long-term plans. We hire postdocs and graduate students for three or four years, assuming that the funding that we’ve secured is actually secure. There’s a lot of basic assumptions that just make the country work, and it wasn’t really anticipated that a single administration could basically destroy all this sense of predictability.”

And of course all of this is happening while the Trump administration is simultaneously making it more difficult for foreigners to visit[2] and study here—something Tao knows especially well, because he was born and spent his early childhood in Australia, before his parents moved to the United States.

“Moving to research in the U.S., this is a decades-long commitment—you are uprooting your family and everything, you want some assurances that there’s not really chaos,” Tao said. “One thing the U.S. offered for seventy years was stability in a way that many countries could not guarantee. That was a major draw. And so unfortunately, regardless of anything else that happens, we’ve already destroyed the impression of stability that the U.S. enjoyed.”

Tao said he’s already getting feelers from institutions in other countries, as are other senior scholars. And while he said he has no idea how many scholars actually will end up leaving, he worries the United States is on its way to losing—and may have already lost—one of its greatest sources of international strength.

> We've sort of benefited from a reverse brain drain from many other countries, until very recently. The academic environment here was excellent. The financial resources were pretty good—never as much as we would ideally like, but still enough to support a very healthy ecosystem, more so than many other countries. And just the sheer scale and the academic freedom and the diversity. And there was this network effect, this tipping point of really diverse, really good institutions—with lots of really good people, lots of really good activities. For like seventy years, this has been the place to be.

Tao noted that during that seventy-year period, the United States had benefited because autocrats abroad—in Germany and the old Soviet Union—were purging scholars and dismantling institutions to impose their own kinds of conformity.

He's right. And it doesn't take overwrought Hitler or Stalin comparisons to see in this a simpler lesson: Nations can squander their academic and innovative power easily, and once gone it's awfully hard to get back.

1
I submitted detailed questions to both NSF and NIH about their cuts. An NSF spokesperson responded with this statement: "The U.S. National Science Foundation has informed the University of California, Los Angeles that the agency is suspending awards to UCLA because they are not in alignment with current NSF priorities and/or programmatic goals." NIH responded through an HHS official, who said "We will not fund institutions that promote antisemitism. We will use every tool we have to ensure institutions follow the law."

2
Tao also said virtual meetings aren't a substitute: "We can participate in international conferences by zoom, or domestic conferences by zoom, but it is not ideal. A lot of the value of these meetings comes from face-to-face interactions. Often in a zoom talk, the speaker speaks and there are very few questions, especially from junior people."

Exhibit 2

Trump Wants U.C.L.A. to Pay $1 Billion to Restore Its Research Funding

nytimes.com/2025/08/08/us/trump-ucla-research-funding-deal.html

Alan Blinder, Michael C. Bender August 8, 2025

The University of California, Los Angeles, campus.Credit...Alisha Jucevic for The New York Times

The Trump administration is seeking more than $1 billion from the University of California, Los Angeles, to restore hundreds of millions of dollars in federal research funding that the government halted, according to a draft of a settlement agreement reviewed by The New York Times.

The proposal calls for the university to make a $1 billion payment to the U.S. government and to contribute $172 million to a claims fund that would compensate victims of civil rights violations.

If U.C.L.A. accedes to the demand, it would be the largest payout — by far — of any university that has so far reached a deal with the White House. Columbia University agreed to pay $221 million in connection with its settlement with the government, and Brown University pledged to spend $50 million with state work force programs.

The University of California's president, James B. Milliken, said in a statement on Friday that the university had "just received a document from the Department of Justice and is reviewing it."

He added, "As a public university, we are stewards of taxpayer resources, and a payment of this scale would completely devastate our country's greatest public university system as well as inflict great harm on our students and all Californians."

Administrators at the campus in Los Angeles did not immediately respond to a request for comment. Julio Frenk, U.C.L.A.'s chancellor, said this week that about $584 million in research funding was already "suspended and at risk." The university, like many other top schools, is deeply dependent on federal research money; about 11 percent of its revenues come from federal grants and contracts.

The Trump administration has largely targeted elite private universities in recent months as a part of what it has depicted as a campaign to fight antisemitism and reshape institutions that it views as cathedrals of liberalism.

But its turn toward U.C.L.A. has been sharp. On July 29, the day the University of California settled a lawsuit that accused U.C.L.A. of allowing pro-Palestinian protesters to block Jewish students on campus, the Justice Department said it believed U.C.L.A. had committed civil rights violations.

Dr. Frenk announced later that week the federal government had started freezing research money.

The White House's demands of U.C.L.A. fit into a broad pattern of how the Trump administration has targeted California. The state's governor, Gavin Newsom, is one of President Trump's top political foes and a potential candidate for the White House.

On Thursday, the day before the terms of the White House's proposed settlement emerged, Mr. Newsom suggested the University of California would not bow to the federal government.

"I will fight like hell to make sure that doesn't happen," said Mr. Newsom, an ex officio member of the university's board of regents. "There's principles. There's right and wrong, and we'll do the right thing, and what President Trump is doing is wrong, and everybody knows it."

He added that he would "do everything in my power to encourage them to do the right thing and not to become another law firm that bends on their knees, another company that sells their soul, or another institution that takes a shortcut and takes the easy wrong versus the hard right."

But the University of California has shown a willingness to talk to the federal government. Mr. Milliken, the system's newly installed president, said on Wednesday that the university had agreed "to engage in dialogue with the federal administration." Mr. Milliken, though, sharply criticized the administration's moves against funding.

"These cuts do nothing to address antisemitism," said Mr. Milliken, who started his job on Aug. 1. "Moreover, the extensive work that U.C.L.A. and the entire University of California have taken to combat antisemitism has apparently been ignored.

The White House's proposed terms, some of which were first reported by CNN, were not exclusively financial. Among other conditions, the government is seeking the appointment of a monitor to enforce the settlement's terms, the abolition of scholarships connected to race or ethnicity and the cessation of diversity statements in hiring.

But the government included a provision, as it did with Brown and Columbia, that would seem to keep U.S. officials from using the settlement to interfere directly with academic freedom, admissions and hiring.On Friday, Governor Newsom, along with several other state officials, called the White House's proposal "a billion-dollar political shakedown."

"Trump has weaponized the Department of Justice to punish California, crush free thinking, and kneecap the greatest public university system in the world," the officials said in a statement, adding, "We are united against Trump's assault and will fight like hell because California will not bow to this kind of disgusting political extortion."

The administration is negotiating with a handful of universities, including Cornell and Harvard. And although Brown and Columbia each agreed to payments, the government's settlement with the University of Pennsylvania included no financial penalties.

Among the universities that have been targeted by the Trump administration, Harvard is the only one that has sued, arguing the government's moves are illegal. It was unclear whether U.C.L.A. would take that step.

Even as Harvard's case moves through the court system, the school has been in talks with the Trump administration in an effort to end the conflict.

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Attorneys for Plaintiffs and the Proposed Class
[Additional counsel omitted]

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

NEETA THAKUR, KEN ALEX, NELL GREEN NYLEN, ROBERT HIRST, CHRISTINE PHILLIOU, and JEDDA FOREMAN, on behalf of themselves and all others similarly situated,

Plaintiffs,

v.

DONALD J. TRUMP, in his official capacity as President of the United States; DEPARTMENT OF GOVERNMENT EFFICIENCY ("DOGE"); AMY GLEASON, in her official capacity as Acting Administrator of the Department of Government Efficiency; NATIONAL SCIENCE FOUNDATION; BRIAN STONE, in his official capacity as Acting Director of the National Science Foundation;

Case No. 3:25-cv-4737-RL

DECLARATION OF PROFESSOR KAREN MCKINNON

The Honorable Rita F. Lin

NATIONAL ENDOWMENT FOR THE HUMANITIES;
MICHAEL MCDONALD, in his official capacity as Acting Chairman of the National Endowment for the Humanities;
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY;
LEE ZELDIN, in his official capacity as Administrator of the U.S. Environmental Protection Agency;
UNITED STATES DEPARTMENT OF AGRICULTURE;
BROOKE ROLLINS, in her official capacity as Secretary of the U.S. Department of Agriculture;
AMERICORPS (a.k.a. the CORPORATION FOR NATIONAL AND COMMUNITY SERVICE);
JENNIFER BASTRESS TAHMASEBI, in her official capacity as Interim Agency Head of AmeriCorps;
UNITED STATES DEPARTMENT OF DEFENSE;
PETE HEGSETH, in his official capacity as Secretary of the U.S. Department of Defense;
UNITED STATES DEPARTMENT OF EDUCATION;
LINDA MCMAHON, in her official capacity as Secretary of the U.S. Department of Education;
UNITED STATES DEPARTMENT OF ENERGY;
CHRIS WRIGHT, in his official capacity as Secretary of Energy;
UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES;
ROBERT F. KENNEDY, JR., in his official capacity as Secretary of the U.S. Department of Health and Human Services;
UNITED STATES CENTERS FOR DISEASE CONTROL;
MATTHEW BUZZELLI, in his official capacity as Acting Director of the Centers for Disease Control;
UNITED STATES FOOD AND DRUG ADMINISTRATION;
MARTIN A. MAKARY, in his official capacity as Commissioner of the Food and Drug Administration;
UNITED STATES NATIONAL INSTITUTES OF HEALTH;
JAYANTA BHATTACHARYA, in his official capacity as Director of the National Institutes of Health;
INSTITUTE OF MUSEUM AND LIBRARY SERVICES;
KEITH SONDERLING, in his official capacity

as Acting Director of the Institute of Museum and Library Services;
UNITED STATES DEPARTMENT OF THE INTERIOR;
DOUG BURGUM, in his official capacity as Secretary of the Interior;
UNITED STATES DEPARTMENT OF STATE;
MARCO RUBIO, in his official capacity as Secretary of the U.S. Department of State;
DEPARTMENT OF TRANSPORTATION;
SEAN DUFFY, in his official capacity as Secretary for the U.S. Department of Transportation,

Defendants.

DECLARATION OF PROFESSOR KAREN MCKINNON

I, Karen McKinnon, declare as follows:

1. I have personal knowledge of the facts contained in this declaration and, if called as a witness, could and would testify competently to those facts.

2. I am an Associate Professor in the Department of Atmospheric and Oceanic Sciences, the Department of Statistics and Data Science, and the Institute of the Environment and Sustainability at the University of California Los Angeles.

3. Before joining UCLA in November of 2018, I worked as an Applied Scientist at Descartes Labs, and an Advanced Study Program post-doctoral fellow at the National Center for Atmospheric Research. I received my PhD in 2015 from Harvard University.

4. My work focuses on large-scale climate variability and change, with a particular emphasis on connections to high-impact weather events. My work has resulted in several publications[1] and has been covered by news outlets including the New York Times, Fox News, and the Washington Post.

NSF Grant Application & Award

5. In March 2024, I was awarded the National Science Foundation CAREER award for my research on heat extremes.

[1] *See, e.g.*, McKinnon, Karen A and Simpson, Isla R and Williams, A Park "The pace of change of summertime temperature extremes," Proceedings of the National Academy of Sciences, v.121, 2024, available at: https://doi.org/10.1073/pnas.2406143121.

6. Per NSF, "[t]he Faculty Early Career Development (CAREER) Program is a Foundation-wide activity that offers the National Science Foundation's most prestigious awards in support of early-career faculty who have the potential to serve as academic role models in research and education and to lead advances in the mission of their department or organization."[2]

7. An abstract of my CAREER grant, # 238237, is available on the NSF's website.[3] It states:

> Heat waves of unprecedented intensity and duration are expected in a warming world, and the record-breaking heat waves of recent years confirm this expectation. The increasing frequency of such events is alarming and naturally leads to concerns that the severity of heat waves is outpacing the rise in mean temperature. But the extent to which the hottest days are warming faster than the average temperature increase is hard to quantify, and certainly heat waves would become more severe even if the hottest days warmed at the same rate as all the other days. One challenge is that heat extremes are rare by definition, thus there is limited sample size to make statistically robust conclusions. The sample size issue is particularly challenging as the extent to which the hottest days warm faster is likely to vary from one region to another. A further challenge is that we do not have a satisfactory understanding of the physical mechanisms that might lead to stronger warming trends for hot days than for average days.
>
> Work under this award addresses both the extent to which temperature increases are greater for the hottest days and the physical mechanisms that might be responsible. The analysis of temperature trends compares trends for the 50th and 95th percentiles of the temperature distribution on a regional basis and uses various statistical methods to overcome sample size limitations and account for natural variability. The analysis also considers output from the simulations available from the Climate Model Intercomparison Project (CMIP) and the Large Ensembles created with the Community Earth System Model (CESM). Work addressing physical mechanisms focuses on the extent to which drying of the soil contributes to temperature extremes, in particular that drying accompanies heat waves and drying limits the extent to which the surface can cool through evaporation and transpiration, thus leading to greater warming. The dependence of temperature extremes on soil moisture and evapotranspiration is explored by applying a surface energy budget equation to observations and model output, and through idealized experiments with CESM.
>
> The educational component of this CAREER proposal seeks to build a bridge between climate and data science to foster more effective collaboration between the two fields. One activity is the development of an educational module for a freshman class in

[2] https://www.nsf.gov/funding/opportunities/career-faculty-early-career-development-program.
[3] https://www.nsf.gov/awardsearch/showAward?AWD_ID=2338237&HistoricalAwards=false.

> environmental science intended to teach statistical thinking through hands-on data analysis. The module uses Jupyter notebooks to give students access to observational data for their own hometowns, and guides them through the calculation of means and extremes and their variation over time. Another activity is a workshop for 30-40 graduate students working at the interface between data science and climate science, to be held at the National Center for Atmospheric Research (NCAR). The workshop is mostly devoted to a 'science hackathon' in which teams of students with a mix of disciplinary backgrounds will work together to solve specific problems related to climate extremes. The award provides support for 20 attendees at the workshop who are chosen through an open competitive process.

8. Notably, the abstract confirms that "[t]his award reflects NSF's statutory mission and has been deemed worthy of support through evaluation using the Foundation's intellectual merit and broader impacts review criteria."

9. The grant was for five years (September 2024 – August 2029) for an amount of $944,511.00. I am the Principal Investigator on the grant.

Indefinite Suspension of Grant Funding

10. On July 30, 2025, Lisa Scott-Morring, Acting Division Director, Division of Grants and Agreements at NSF, sent a letter to Dr. Julio Frenk, Chancellor of UCLA, notifying the Chancellor that certain NSF awards were being indefinitely suspended, effective immediately, because UCLA allegedly "continues to engage in race discrimination including in its admissions process, and in other areas of student life, as well as failing to promote a research environment free of antisemitism and bias."

11. I received a "Stop Work Notice" on July 31, 2025, from UCLA's Office of Contract & Grant Administration informing me that my grant was among those indefinitely suspended by NSF and directing me to "immediately stop incurring costs/expenditures" related to the grant.

Harm Suffered from NSF Grant Suspension

12. At the time the grant was suspended, approximately $900,000 of the original award of $944,511 had yet to be expended. The indefinite suspension has resulted and will continue to result in immediate harm. Specifically:

a. The grant was providing a full salary to a post-doctorate researcher at

UCLA working to better understand the impact of aerosols on summertime heat extremes. As a result of the indefinite suspension, this post-doctorate has lost his funding and has had to move on to other projects with other funding sources.

b. The grant was also providing funding for a graduate student working on interactions between land and atmosphere as it relates to heat extremes. Her work can continue only by diverting funds from other sources, which comes at significant opportunity cost.

c. Additional grant funds were to be used to further grow the research team and increase the team's capacity and productivity. Specifically, I had extended an informal offer to another post-doctorate, who was in the process of obtaining a visa to join our team. As a result of NSF's indefinite suspension, her onboarding efforts were aborted and she has committed to a different project for at least the next year.

d. All of these disruptions have resulted in a significant loss of momentum and loss of productivity, which is having and will continue to have a dampening effect on the research and my own career.

e. In addition, the grant was supposed to fund my salary for August 2025.

13. In many ways, there is no meaningful difference between a termination and an indefinite suspension. Both result in significant disruption and lost opportunities, among other things.

I declare under penalty of perjury under the laws of the State of California and the United States that the foregoing is true and correct.

Executed this 10 day of August, 2025.

Karen McKinnon

Karen McKinnon

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Attorneys for Plaintiffs and the Certified Classes

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

NEETA THAKUR, et al.,

Plaintiffs,

v.

DONALD J. TRUMP, et al.,

Defendants.

Case No. 3:25-cv-4737

DECLARATION OF PROFESSOR ARADHNA TRIPATI

DECLARATION OF ARADHNA TRIPATI

I, Aradhna Tripati, declare as follows:

1. I have personal knowledge of the facts contained in this declaration and, if called as a witness, could and would testify competently to those facts.

2. I am a Professor at the University of California, Los Angeles ("UCLA") serving in multiple departments, including the Institute of the Environment and Sustainability (IoES), the Department of Atmospheric and Oceanic Sciences, the Department of Earth, Planetary, and Space Sciences, the Institute for Geophysics and Planetary Physics (IGPP), and the California Nanosystems Institute (CNSI).

3. I am the faculty director and founder of the UCLA Center for Developing Leadership in Science (CDLS), a nationally recognized program that fosters inclusive excellence in STEM. Since 2018, CDLS has supported more than 500 fellows, from high school students to postdocs, through hands-on research, leadership training, and community collaboration.

4. I have received numerous awards for my research, education, and outreach work, including a Presidential Early Career Award in Science and Engineering from President Obama and the White House Office for Science, Technology, and Policy; the NSF's CAREER award, which is the most NSF prestigious award in support of early career faculty; the Bromery Award for Minorities from the Geological Society of America; the E.O. Wilson Award for Outstanding Science on climate change, and; a Chair International D'Excellence in Stable Isotopes from Institut Universitaire European De La Mer. I have also been named a Hellman Fellow and a National Academy of Sciences Kavli Fellow.

5. As a geoscientist and climate scientist, I am responsible for over 120 research papers and publications, 181 conference abstracts, 13 invited talks and three keynote lectures at international conferences, and 50 invited talks at universities and research institutes. There are approximately 3000 citations to my research.

6. From 2002-2009, I was a research fellow at the University of Cambridge, where I held the Thomas Nevile Fellowship in Natural Sciences, a Comer Abrupt Climate Change

Fellowship, a National Environmental Research Council Fellowship, and a Marshall Sherfield Fellowship.

7. In 2002, I earned a Ph.D. in Earth Sciences at UC Santa Cruz where I was a Gates Millennium Scholar, an Ocean Drilling Program Fellow, and a UC Regents' Fellow. As a Ph.D. student, I received the Aaron Waters Award for Best Thesis Proposal.

8. In 1996, I earned my B.S. in Geological Sciences from California State University, Los Angeles where I received the Aaron Waters Award for Outstanding Senior.

9. My research focuses on climate science, geochemistry, climate justice, environmental justice, climate change impacts, climate resilience, geology, and clumped isotope geochemistry.

10. I have been the recipient of grant funding for my work from a variety of governmental and private sources, including federal grant funding from the NSF. `

11. A true and correct copy of my curriculum vitae is attached as **Exhibit A**.

RAISE Water Grant Award

12. On September 16, 2019, the NSF issued a notice of award to me, Federal Award Identification Number 1936715, for a project titled "RAISE: Bringing Together Diverse Perspectives on Water" ("RAISE Water Grant").

13. The RAISE Water Grant seeks to bring together and share diverse perspectives on water through convergence research (referred to as braiding knowledge), with aims to develop solutions to environmental challenges in the Southwestern United States. The project represents a model for convergence research on water that can serve as a model for other geographic regions. Knowledge of deep history, obtained through geoscience, ethnography, and archaeology, can inform science, support Indigenous sovereignty, and guide decision-making for tribal authorities, and for other local, regional, and national policy-makers. Knowledge of community water values and needs can and should inform water management and science. Braided, this knowledge can support climate change adaptation.

14. The specific goals of the project are to: (1) use novel interdisciplinary approaches to constrain how and why precipitation and evaporation rates respond to changing climate forcing

in different regions of the Southwest; (2) gather data on the water issues, past and present, facing Indigenous communities whose waters are in, or are conveyed to, the Los Angeles basin, and other regions; (3) Broaden participation through inclusive practices with the adaptation and assessment of the CDLS inclusive science model to the geosciences and environmental science.

15. The initial NSF Award for the RAISE Water Grant was for three years (September 2019 – August 2022) for an amount of $1,000,000. The statutory authority for the award was "National Science Foundation Act of 1950, as amended (42 U.S.C. 1861-75)." A true and correct copy of the September 2019 Notice of Award is attached as **Exhibit B**.

16. I am identified as the Principal Investigator for the RAISE Water Grant. The proposal would fund salaries for myself and others on my research team, as well as research costs, supplies, technical services, and travel.

17. The NSF issued supplemental awards for the RAISE Water Grant in July 2020 and August 2021, for $199,999 and $99,999 respectively, bringing the total federal funding awarded for the RAISE Water Grant to $1,299,998. True and Correct copies of the July 2020 and August 2021 Notices of Award are attached as **Exhibits C and D**.

18. The NSF also issued a notice in August 2024 that extended the end date of the RAISE Water Grant to August 31, 2025. A true and correct copy of that extension notice is attached as **Exhibit E**.

Suspension of RAISE Water Grant

19. On August 1, 2025, I was notified over email by UCLA administrators that the NSF had issued a "suspension notice" suspending the RAISE Water Grant Award. A true and correct copy of the Grant Suspension Notice email is attached as **Exhibit F**.

20. The Grant Suspension Notice stated that "UCLA has received a suspension notice from NATIONAL SCIENCE FOUNDATION (NSF)" for the RAISE Water Grant and to "immediately stop incurring costs/expenditures … effective July 31, 2025."

Veterans STEM Grant Award

21. On June 5, 2023, the NSF issued a notice of award to me, Federal Award Identification Number 2232606, for a project titled "Collaborative Research: Supporting

Leadership in Diversity, Professional Development, and Geoscience Capacity Building for Veterans in STEM: The VRC-CDLS Veterans in STEM Program" ("Veterans STEM Grant").

22. The primary goal of the Veterans STEM Grant was to build a robust, cross-institutional network dedicated to enhancing veteran participation and leadership in STEM fields through recruitment, convenings, role models, advising, and research engagement. The Veterans STEM project establishes a cross-institutional geo/environmental science leadership program between East Los Angeles College (ELAC) and The University of California, Los Angeles (UCLA), and has expanded more recently to Santa Monica College, California State Dominguez Hills, LA Mission College, and American University of Health Science. The project employs a multi-dimensional approach to science training that simultaneously supports geoscience students academically, socially, and personally. In addition to supporting science skill development, the program emphasizes developing essential skills to become effective leaders in these fields. The program creates a model that can be used to address veterans being included in spaces at the intersection of science and leadership at various types of institutions across the country.

23. The NSF Award for the Veterans STEM Grant was for five years (June 2023–August 2028) for an amount of $1,871,753. The statutory authority for the award was "National Science Foundation Act of 1950, as amended (42 U.S.C. 1861-75)." A true and correct copy of the June 2023 Notice of Award is attached as **Exhibit G**.

24. I am identified as the Principal Investigator for the Veterans STEM Grant. The proposal would fund salaries and stipends for veteran students and researchers, faculty, and staff, as well as programming costs, supplies, and travel.

Suspension of Veterans STEM Grant

25. On August 1, 2025, I was notified over email by UCLA administrators that the NSF had issued a "suspension notice" suspending the Veterans STEM Grant Award. A true and correct copy of the Grant Suspension Notice email is attached as **Exhibit H**.

26. The Grant Suspension Notice stated that "UCLA has received a suspension notice from NATIONAL SCIENCE FOUNDATION (NSF)" for the Veterans STEM Grant and to "immediately stop incurring costs/expenditures … effective July 31, 2025."

Harm Suffered from NSF Grant Suspensions

27. My research team, my students, and I have suffered immediate harm as a result of the suspension of the RAISE Water and Veterans STEM grants. Specifically:

a) My research team and I are unable to (1) complete our convergence research on the environmental challenges in the Southwestern United States, or (2) continuing supporting STEM research performed by veteran students and researchers. This is after considerable work has already been executed to recruit researchers and students, conduct research, build community partnerships, and engage participants. Instead, I have had to spend significant time seeking alternate funding sources, and I may potentially need to lay off several members of my research team.

b) I received financial assistance from these grants for my own salary and that of my research team. I thus need to find new funding sources to fill this unexpected and large gap in compensation.

c) Grant termination has compromised the trust-building necessary for community engagement on supporting veteran STEM researchers and students. It has taken years for effort to develop relationships with the East Los Angeles College (ELAC), Santa Monica College, California State Dominguez Hills, LA Mission College, and American University of Health Science. All these institutional relationships and infrastructure created to support veteran STEM students have now been compromised.

d) The above personal and financial harms are ongoing.

e) These harms are in addition to the loss of value to the public from my research – specifically, insights gained and potential solutions for addressing environmental challenges in the Southwestern United States and creating opportunities for veterans in STEM research.

Role of Class Representative

28. As the above facts demonstrate, I am a member of the UC researchers classes previously granted provisional certification by this Court. I am willing to serve as an additional class representative, and am ready to assume the associated responsibilities. I understand that I must stay informed regarding developments in the lawsuit, communicate regularly with my attorneys, and act in the best interests of the class. I have no conflicts that would prevent me from assuming this responsibility.

29. I have been in communication with other UC researchers class members who have suffered the same general type of harm as I describe above, from the abrupt suspension of their

previously approached research grants. This harm is widespread and I believe it will only increase in scope and impact if classwide relief is not granted.

I declare under penalty of perjury under the laws of the State of California and the United States that the foregoing is true and correct.

Executed August 11, 2025.

/s/ Aradhna Tripati
Aradhna Tripati

EXHIBIT A

Professor Aradhna Tripati
Institute of Environment and Sustainability (IoES) - Department of Atmospheric and Oceanic Sciences (AOS) - Department of Earth, Planetary, & Space Sciences (EPSS) - American Indian Studies Center (AISC) - Institute of Geophysics and Planetary Physics (IGPP) - California Nanosystems Institute (CNSI)
University of California, Los Angeles - UCLA

1. Summary:

Aradhna Tripati is a climate scientist and higher education leader who is a professor at UCLA, a leading research university. She founded and directs the Center for Developing Leadership in Science, and. She is known as an innovative and experienced expert in climate science, geochemistry, climate justice, environmental justice, climate change impacts, climate resilience, geology, STEM education, critical frameworks, co-learning and knowledge co-production, social impact collaboration, public engagement, and cultural transformation, with >20 years of experience. She has worked as a faculty member at UCLA for 15 years, where she has developed the institutional profile in the emerging breakthrough area of clumped isotope geochemistry, while simultaneously contributing locally, nationally, and globally to the movement for diversity, equity, inclusion, justice, access, and belonging in STEM. Her work has led to the publication of >120 papers in journals as diverse as *Environmental Justice*, *Ethnicity and Disease, e-Life, Science, Nature, Proceedings of the National Academy of Sciences, Geochimica et Cosmochimica Acta, Paleoceanography and Paleoclimatology*, and raised >$26 million for research. She received the Presidential Early Career Award in Science and Engineering under President Obama for her unique and impactful research and work and is Fellow of four scientific societies. Due to her expertise, she has been an invited speaker at the Science Philanthropic Alliance addressing over 100 individuals from foundations on "*Why diversity and inclusion need to be a pillar of US science in the 21st century*" and a Distinguished Lecturer at the National Science Foundation discussing the intellectual merit and broader impacts of her work and vision for future directions.
She has been recognized

2. Personal information

Citizenship: Dual - US and UK
Race/Ethnicity: Indo-Fijian-American
DOB: 3/19/1979 (age 46)

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3. Education and career history

Education:
B.S. Geology, California State University, Los Angeles (1996)
Distinctions: Began college at age 12; Recipient of Aaron Waters Award for Outstanding Senior
Ph.D. Earth Sciences, University of California, Santa Cruz (2002)
Distinction: Recipient of Aaron Waters Award for Best Thesis Proposal

Career history:
Full Professor, UCLA (2021)
Founding Faculty Director, Center for Diverse Leadership in Science (2017-present)
Associate Professor with tenure, UCLA (2014-present)

Assistant Professor, UCLA (2010-2014; 2009-2010 – 0% appointment at UCLA)
Visiting Scientist, California Institute of Technology (2007-2012)
Research Fellow and PI, University of Cambridge (2002-2009)

Additional appointments:
Honorary Professor, University of Bristol (2022-2025)
Visiting Professor, University of Brest (2015-2019)
Visiting Professor, Natural History Museum, University of Copenhagen (2014-2016)
Field Research and Instructor, Antarctic paleoclimate, Students on Ice (2011)
Field Expedition Leader, Svalbard, Norway (2008)
Field Expedition Leader, Cauvery Basin, India (2008)
Sedimentologist, Ocean Drilling Program Expedition 199 (2001)
Undergraduate Research Fellow, Los Alamos National Laboratory (1995)

4. Honors

Awards:
Distinguished Graduate Alumni Award, UCSC (2025)
Distinguished Lectureship, AGU, Paleoceanography and Paleoclimatology (2024-2025)
Community Building Award, Esperanza Community Housing (2024)
Royal Society Wolfson Visiting Research Fellowship (2021-2024)
Elected to the California Academy of Sciences (2021)
Fellow, Geochemical Society, European Association of Geochemistry (2021)
Dansgaard Award, American Geophysical Union (2021)
Ambassador Award, American Geophysical Union (2021)
Fellow, American Geophysical Union (2021)
AGU Presidential Citation for *No Time for Silence* Contributing Authors led by Vernon Morris (2020)
UCLA Senate Faculty Award for Career Commitment to Diversity, Equity, and Inclusion (2020)
Climate Crisis Honoree, Washington DC (2019)
Fellow, Geological Society of America (2018)
Distinguished Lecturer, National Science Foundation (2018)
Presidential Early Career Award in Science and Engineering (PECASE) under President Obama (2017)
Bromery Award, Geological Society of America (2017)
Chair International D'Excellence, Stable isotopes and paleoceanography, Labex Mer, European Institute of Marine Sciences (2015-2017)
U.S. National Academy of Sciences Kavli Fellow (2015)
E. O. Wilson Award for Outstanding Science - on the role of carbon dioxide in climate change, Center for Biological Diversity (2014)
Hellman Fellowship (2012-2013)
UCLA Career Development Award (2012)
UK National Environmental Research Council (NERC) Fellowship (2006-2010)
Thomas Nevile Fellowship in Natural Sciences, Magdalene College, Univ. Cambridge (2006-2010)
NSF ADVANCE Award Lecture (Univ. Ariz., 2009)
Comer Abrupt Climate Change Fellowship (2003-2005)
Wolfson College Visiting Fellowship, Univ. Cambridge (2002-2004)
Marshall Sherfield Postdoctoral Fellowship (2002-2003)
Gates Millennium Scholar (2000-2002)
Schlanger Ocean Drilling Program Graduate Fellowship (2000)
Gretchen L. Blechschmidt Award from Geological Society of America (2000)
Graduate Assistance in Areas of National Need Fellowship (1999-2000)
National Science Foundation Graduate Fellowship Honorable Mention (1997)
UC Regents Fellowship (1996-1997)

Bahamian Field Course Scholarship (1996)
Perry Ehlig Summer Field Scholarship (1996)
CSU Statewide Research Competition Finalist (1995)
CSULA General Honors Scholarship (1994)
National Dean's List (1994)
CSULA University Dean's List (1992-1996)
University Early Entrance Program (1992-1994)

5. Funding raised

Awarded research grants (2011-present)

How Does the Water Cycle Respond to Warming? (2024-2026): $600,000 (Heising Simons Foundation)
Coaching and Developing a Strategic Roadmap for the Center for Diverse Leadership in Science (2023-2025): $115,000 (Packard Foundation and Leaders Trust)
Center for Diverse Leadership in Science: Community-led research and service learning in support of environmental justice (2023-2025): $600,000 (JPB)
Center for Diverse Leadership in Science (2023-2025): $75,000 (Dalio Philanthropies)
Climate Hubs Learning Partnership (2022-2024): $1,998,080 (Waverley Street Foundation)
Center for Diverse Leadership in Science - Oceans (2022-2024): $1,200,000 (with PI Robert Eagle) (Packard Foundation)
The Center for Diverse Leadership in Science Geoscience Learning and Research Ecosystem - Environmental Imagination, Justice, and the University (2022-2027): $7,490,711 (with co-PIs Chairman Valentin Lopez, Monic Uriarte, and Nancy Ibrahim) (NSF)
Collaborative Proposal: The WinG Collective: An initiative to support women of color in the geosciences (2023-2025): $128,127 (NSF; with UC Merced PI S. Kim and UC Davis PI I. Montanez)
Collaborative Research: Supporting Leadership in Diversity, Professional Development, and Geoscience Capacity Building for Veterans in STEM: The VRC-CDLS Veterans in STEM Program: $1,837,882 (NSF) (2023-2028)
Center for Diverse Leadership in Science Oceans (2022-2023): $200K (Oceankind)
Center for Diverse Leadership in Science Strategic Planning (2022-2023): $45,000 (Packard Foundation)
Center for Diverse Leadership in Science (2022-2023): $30,000 (Energy Foundation)
Center for Diverse Leadership in Science (2022-2023): $50,000 (Dalio Philanthropies)
Climate and Sustainability Innovation Center for Social Transformation and the Center for Diverse Leadership in Science (2020-2023): $1,390,000 (Packard Foundation)
Enabling Paleoclimate Innovation and Broadening Access to Carbonate Clumped Isotope Geochemistry (2022-2024): $1,899,958 (Heising-Simons Foundation)
The Past, Present, and Future of Water: Clumped isotopes as a novel tool for studying hydroclimates in Western North America (2021-2023): $500,000 (Heising-Simons Foundation)
How does the water cycle respond to warming? Novel constraints on regional hydroclimates from proxy data in concert with model analysis (2021-2023): £125,000 (Royal Society)
Center for Diverse Leadership in Science (2021-2022): $250,000 (Sloan Foundation)
Center for Diverse Leadership in Science Strategic Planning (2021-2022): $45,000 (Packard Foundation)
GIS for Community Health: A community-led research and service-learning project (2021-2022): $30,000 (UCLA Racial and Social Justice Grant)
Center for Diverse Leadership in Science (2021-2022): $17,000 (Ralph M. Parsons Foundation)
Marine science and sustainable coasts under changing conditions, within an inclusive science framework (2020-2022): $600,000 (with PI Robert Eagle) (Packard Foundation)
Collaborative Research: A Cross-Institution Veterans in STEM Research Program (2020-2022): $300,000 (with East LA College co-PI Djuradj Babic) (NSF)
Bringing Together Diverse Perspectives on Water (2019-2022): $1,299,998(with UCLA co-PIs Shannon Speed and Jessica Cattelino) (NSF)
Workshopping and relationship-building to promote pathways in STEM higher education: UCLA

and Navajo Technical University (2019-2021): $49,580 (NSF)
Center for Diverse Leadership in Science (2018-2020), $1,500,000 (Silicon Valley Community Foundation; mix of gift and grant)
Clumped Isotope Signatures in Carbonate Minerals (2017-2020), $961,369 (DOE)
CAREER - CLUMPMAP – Glacial climate from clumped isotope thermometry with NSF REU award and NSF INCLUDES award (Using the fellows programs at the Center for Diverse Leadership in Science as an institutional change model) (2014-2019), $848,081 (NSF)
Controls on Clumped Isotope Signatures in Carbonate Minerals (2016-2017), $130,001 (DOE)
The effects of abrupt warming on climate and hydrology in subtropical Mexico (2016-2018), $24,965 (UC-Mexus)
EAGER- Exploring the potential for the 1.1 Ga Copper Harbor Conglomerate to yield information on terrestrial environments during the rise of the eukaryotes (2016-2017), $49,999 (NSF)
International Research Chair Award, Stable isotopes and paleoceanography, Labex Mer, European Institute of Marine Sciences (2015-2017), $600,000 (Labex Mer/University of Western Brittany)
Aqueous speciation and clumped isotope thermometry (2014-2016), $100,000 (NSF)
Disequilibrium Controls on ^{13}C-^{18}O Bond Order in Carbonate Minerals (2014-2016), $396,556 (DOE)
Shared Resources Consortium Award (2013-2014), $150,000 (UCLA Vice Chancellor for Research)
Assessing the potential of clumped isotope thermometry to constrain temperatures in the Arctic during the Pliocene (2012-2014), $235,903 (with UCLA co-PI Robert Eagle) (NSF)
Acquisition of a gas source mass spectrometer, technical support, and outreach for research (2011-2013), $390,000 (NSF)
Determination of cold seep carbonate formation temperatures using carbonate 'clumped isotope' thermometry (2011-2013), $112,000 (Agouron)
Hot and heavy or cool and fresh? Distinguishing between meteoric and burial diagenesis using clumped isotope thermometry (2011-2013), $100,000 (American Chemical Society)
Faculty Research Grant (2011-2012), $5,000 (UCLA Academic Senate)
Paleothermometry using ^{13}C-^{18}O bond abundance in carbonates from the ANDRILL SMS Project (2011) $31,630 (NSF)
Systematics and application of the 'clumped isotope' thermometer in foraminifera and coccoliths (2007-2010), £254,620 (NERC)
Constraints from new geochemical proxies on temperature and sea level during critical climate transitions (2008-2010) £36,000 (NERC)
Ice-rafted Debris in Middle Eocene to Early Oligocene Sediments from the Greenland Sea (2006), £15,000 (Royal Society)
Tropical SST reconstruction for the early Paleogene using Mg/Ca ratios of planktonic foraminifera (2000), $2500 (NSF)

Awarded research grants (Co-I) (1999-2009): £397K + $52K; ~$568K

Assessing the role of ocean circulation in rapid climate change through the novel integration of high-resolution proxy records (2006-2009) PI: H. Elderfield £226,000 (NERC)
Using calcium isotopes to evaluate interactions between changing seawater calcium, the oceanic carbon cycle and climate during the Cenozoic (2005-2009) PI: C. de la Rocha. Co-Is: A. Galy, M. Bickle, and H. Elderfield. £151,000 (NERC)
Using benthic foraminiferal Mg/Ca to assess the climatic response to orbital and greenhouse gas forcing during the Late Pleistocene (2004-2006). PI: H. Elderfield. £20,000 (NERC)
An isotopic and geochemical investigation of Cenozoic transient climates (2002). $30,000 (NSF)
Tropical SST reconstruction for the early Paleogene using Mg/Ca ratios of planktonic foraminifera (1999). PI: J. Zachos. $22,000 (NSF)

Other awarded grants I contributed to (2020-present): $600K

Collaborative Research: Exploring impacts of scholarships, cross-institutional networks, and co-curricular activities on student and faculty leadership development and the retention of Navajo students in geosciences (2020-2022), $300,000 (PI Jenny Nakai and Nsalambi

Nkongolo; to support students, recent graduates, and faculty at Navajo Technical University and Dine College during COVID-19) (NSF)

Collaborative Research: Indigenous Geoscience Community (2020-2022): $300,000 (PI Wendy Smythe, Senior Personnel include Judith Brown Clarke, Darryl Reano, Vernon Morris, and myself) (NSF)

>$1M in Philanthropic Support Raised as Gifts

6. Advising

Former PhD students:

- *UCLA:* Alexandrea Arnold (AOS; postdoc joint between UCLA and University Bristol); Jamie Lucarelli (EPSS; staff scientist at DOE Pacific Northwest National Laboratory), Hung-I Lee (AOS; researcher), Zeeshan Parvez (Chemistry; working in aerospace), Hannah Tandy (EPSS; GSI Environmental)
- *University of Brest:* Maxence Guillermic (Geochemistry; applying for faculty positions); Ian Foster (Geology; medical)
- *Cambridge:* Chris Roberts (Earth Sciences; University of Reading/ European Centre for Medium-Range Weather Forecasts), Caroline Dawber (Earth Sciences; AIR Worldwide, MA).

Current PhD students:

- *UCLA:* Alexa Terrazas (AOS), Hannah Tandy (EPSS), Deepshikha Upadhay (EPSS), Robert Ulrich (EPSS; co-advised), Cameron Brown (EPSS), Randy Flores (EPSS; co-advised), Jade Knighton (EPSS; co-advised), Hayley Bricker (EPSS; co-advised), Daniel Sepulveda Arias (EPSS), Kira Fish (AOS; co-advised), Danielle Hoague (IoES; co-advised), Bobby Dellinger (AOS)

Committee member for PhD students:

- *UCLA:* Tersi Arias-Young (AOS), Dayanni Bhagwandin (Chemistry), Krystle Cobian (Education), Danielle Kalani Heinz (Archeology), Amr Shahat (Archeology), Wu Sun (AOS), Thomas Weber (AOS); Carolyn Rodriguez (Education); Olivia Simons (AOS); Moriah Byrd (AOS); Elijah Catalan (IoES); Carolina Fulginiti (AOS)

Former M.Sc. students:

- *UCLA*: Lauren Santi (EPSS), Bryce Mitsunaga (EPSS), John Mering (EPSS), Rosaleen Gilmore (AOS; co-advised), Dustin Pittman (AOS; co-advised), Trung Nguyen (AOS; co-advised), Ruslana Dalinina (Statistics; co-advised).
- *CSULA* (all Geological Sciences): Ricardo Lopez- Maldonado, Stephanie Darling, Kazumi Nakamura
- *University of Brest* (all Geology)*:* Dimitri Rougessen, Lea Bonnin, Julien Danzelle.
- *Cambridge* (Earth Sciences Part 3)*:* Anya Crocker, Michael Spencer, Chris Roberts, Helen Macintyre, Aileen Dennis, Caroline Sindrey.

Committee member for former MS students:

- *UCLA*: Ilian DeCorte (AOS)

Undergraduate students (not complete):

- *UCLA:* Dennise Valadez, Randy Flores, Hayley Bricker, Irvin Mataramos, Alexa Terrazas, Andrea Guzman-Metevier, Alexandrea Arnold, Jessica Canet, Jamie Dix, Joshua Sarna, Jonathan Estaris, Poline Pourmorady, Ryan Dill, Chloe Wicker, Nathan Davila, Lilian Chou, Steve Flores, Miguel Gutierrez, Thanh Nguyen, Leslie Nelson, Adam Richardson Audrey Brown, Angel Fulgencio, Samantha Praskin, Nancy Herrera, Alexandra Villa, Deepshikha Upadhyay, Greg Jesmok, Justin Voon, Casey Yamamoto, Leo Pham, Matthew Li, Sean Burford, Tyler Vollmer, Christine Lopez, Yung Cheah, Lydia Rycroft, Vanessa Brillo, Ryan

Dill, Robert Gamariello, Caitlin Cartmell, Jimmy Lee, Savanah Trewman, Akshat Mahajan, Brittany Miles, Mellisha Stokes, Mariam Sahakyan, Nam Duc Lai, Shirley Lee.

- *Santa Monica College:* Naarai Hernandez
- *East LA College:* Joshua Rubi, Kevin Miguel
- *CSULA:* Marcus Enriquez
- *Savannah State University:* Sena Tay
- *Fort Valley State University:* Cameron Brown, Dana Brown
- *Navajo Technical University:* Velynda Sandoval
- *Bryn Mawr College*: Shakhari Badgett
- *Williams College:* Jorge Castro
- *Nanjing University*: Wu Sun, Ning Zhao
- *Cornell University:* Clara Alvarez, Christopher Bentley
- C*ambridge*: Aaron Bufe, Emma Khadun, Oliver Shorttle, Katie Atkinson, Yannick Bahe.
- *Kiel*: Jan Tolzmann, Owena Reinke.
- *UC Santa Cruz:* Alejandro Aguilar Joanna Viserta-Gallinis, Jay Rehor, Jessica Chapman
- *York*: Amy Ruddlesen
- *Macalester College*: Eleanor Bushnell

High school students (not complete):

- *UCLA:* Edgar Cruz, Jason Ibarra, Alexander Ke, Ben Tran, Kevin Sepukkal, Hermes Ip, Rachel Wei, Kelsey Brooks, Richard Wang, Zachary Lipel, Mikael Kalin, Lily Zhou, Suna Zenioglu, Rain Tsong
- *Cambridge:* Lavaniya Thanabalasundaram, Amy Ruddlesen, Zahrah Rosun, Ruby Jennings, Muhammad Yaradua, Sakshi Sadhu.

- Jamie Lucarelli (2022-present; applying for faculty positions); Maxence Guillermic (2019-present; co-advised; applying for faculty positions)

Past postdoctoral advisees:

- Jamie Lucarelli (2022-2023; staff scientist at DOE); Maxence Guillermic (2019-2023; currently project scientist); Juan Lora (2014-2019, NSF Postdoctoral Fellow, Chancellor's Postdoctoral Fellow; assistant professor at Yale), Jesse Bateman (2017-2022, UPLIFT Postdoctoral Fellow; assistant professor at SUNY),
- Jory Lerback (2022-2023; UC President's Postdoctoral Fellow; DOE postdoctoral scholar); Cristian Roman-Palacios (2021-2022 – assistant professor at Univ Arizona); Hannah Carroll (2021-2023; UPLIFT Postdoctoral Fellow; assistant professor at Western Colorado University); Yama Dixit (Marie Curie Postdoctoral Fellow; 2015-2017; assistant professor at Indian Institute of Technology), Andrew Kowler (2015-2017; NSF Postdoctoral Fellow; research scientist at Nevada EPA); Will Defliese (2014-2017; assistant professor at Univ. Queensland), Victoria Petryshyn (2012-2016; assistant professor at USC); Pamela Hill (2010-2013; adjunct at CSU Long Beach), Sean Loyd (2010-2013; Agouron Fellow; associate professor at CSU Fullerton); Yongbo Peng (2012; assistant research professor at Nanjing University).

Technical staff:

- *UCLA:* Ben Elliott (2015-present; 2012), Antra Priyadarshi (2014- 2015; health care), Jianwu Tang (2013-2014; Pace Analytical); Maxence Guillermic (2023-present)
- *Cambridge:* Jiaojiao Li (2009-2010), Jeannie Booth (2006-2010), Robbie Macdonald (2007), Ruth Shaw (2006-2007), Simon Crowhurst (2005-2007; Cambridge Earth Sciences), Patrizia Ferretti (2004; Associate Professor University of Venice)

School teachers:

- *UCLA:* Altair Maine; Stephanie Darling, Joanne Antibus.

7. *Science teaching*

- *UCLA:*
  - *Introduction to Environmental Science*
  - *Blue Planet: Introduction to Oceanography*
  - *Rock whispering: A storytelling of the geological record of extreme climates*
  - *Geochemical Proxies in Paleoclimatology*
  - *Science and communications under authoritarian regimes - then and now*
  - *UCLA Centennial Initiative: Women and minorities in the geosciences at UCLA*
  - *Biological and Environmental Geochemistry*
  - *Environmental Sciences Practicum*
  - *Historical and Regional Geology*
  - *Fracking in California and the Geology of the Monterey Formation*
  - *Undergraduate Journal Club Seminar*
  - *Geochemistry Seminar*
  - *Clumped isotope geochemistry*
  - *Advanced Topics in Geochemistry*
  - *Application of Geochemical Proxies in Paleoclimatology*
- *Cambridge:*
  - *NatSci Tripos: 'Introduction to the hydrosphere'* (~150 students in their 2nd year from Chemistry, Physics, Earth Science, and Biology)
- *Students on Ice:*
  - *Antarctic paleoclimate*
- *Agouron Summer Course:*
  - *Clumped Isotope Geochemistry*
- *University of Brest:*
  - *Clumped Isotope Geochemistry*
- *Santa Monica College:*
  - *Introduction to research methods*
- *UCLA faculty training (instructor/facilitator):*
  - Teach-in co-organizer, Infusing Climate Science and Sustainability Across the Curriculum
  - Workshop co-organizer and co-facilitator, Infusing Climate Science and Sustainability Across the Curriculum

8. *Memberships*

American Geophysical Union (Lifetime)
Geological Society of America
Association of Polar Early Career Scientists
Association of Women Scientists and Engineers
Asian Americans and Pacific Islanders in Geosciences
Geochemical Society
Earth Sciences Women's Network
500 Women Scientists
Union of Concerned Scientists

Also a supporting member of:

National Association of Black Geoscientists
American Indian Science and Engineering Society
Society for Advancement of Chicanos and Native Americans In Science
National Technical Association
National Association of Black Geoscientists

9. *Administrative leadership*

Service on advisory panels, editorial boards, and committees

NASEM – Board on Atmospheric Sciences and Climate (2021-2024)
NASEM - U.S. National Committee for the International Union for Quaternary Research (2020-2024)

UCAR's President's Advisory Committee on University Relations (2021-2024)
NASEM - Board on Atmospheric Sciences and Climate Meeting co-organizer and moderator: Incorporating Equity and Justice into the Nation's Weather, Water, and Climate Services (2021)
American Geophysical Union – Partnership Task Force (2020-2021)
Associate Editor, Geophysical Research Letters (2017-2022)
Associate Editor, special issue on Clumped Isotope Geochemistry in journal Geochemistry, Geophysics, Geosystems (2017-2020)
Geosciences panelist for multiple programs: NSF, NSF/NDSEG/SMART Graduate Fellowships (2010-present)
Ad hoc reviewer for multiple programs: NSF (Chemical Oceanography; Arctic Natural Sciences; Paleo Perspectives on Climate Change, Marine Geology & Geophysics; Geobiology and Low-temperature geochemistry; Sedimentary Geology and Paleobiology; Instrumentation and Facilities), Department of Energy, NERC (UK), NWL (Netherlands), UCLA Faculty Research Grants (2009-present)
Reviewed manuscripts for multiple journals including: Geology, Earth and Planetary Science Letters, Paleoceanography, Geochimica et Cosmochimica Acta, Biogeosciences, Climate of the Past, Marine Micropaleontology, Journal of Sedimentary Research, Geochemistry, Geophysics, Geosystems, Rapid Communications in Mass Spectrometry (2009-present)
Geosciences panel chair for NSF Graduate Fellowship Program (2013)

University Service
Faculty Advisory Committee, Honors Collegium (2016-present)
Committee on Committees (2017-2018)
Faculty Extramural Fellowship Advisor from all departments, UCLA Graduate Division (2016-2017)
UCLA Dissertation Year Fellowship Reviewer (2016)
Chemistry and Biochemistry Department 8-Year Review Committee (2016)
Mechanical and Aerospace Engineering 8-Year Review Committee (2016)
Undergraduate Council (2015-2017)
Student Welfare Subcommittee, Undergraduate Council (2015-2017)
Faculty Advisory Committee for Environmental Science and Engineering Program (2015-2018)
UC Faculty Curriculum Workshop Co-Leader for Infusing Climate Science and Sustainability Across the Curriculum, (2015-present)
UCLA Undergraduate Research Scholars Program Review Committee (2015)
Faculty panelist, UCLA Honors Collegium 101A course (2015)
Library Prize for Undergraduate Research Committee (2015)
Faculty Leader for the SMC/UCLA Science and Research Initiative - Aims to increase the number of low-income community college students that transfer to a baccalaureate program in a STEM field (2013- 2014)
NSF-AGEP CA Faculty Advisory Committee (2014-present)

DEI service
Center for the Study of Women Advisory Committee (2022-2024)
Advisory board, Second National Conference for Justice in Geoscience (2022-present)
Associate editor, special issue, In Our Voices, Journal of Geoscience Education (2021-2023)
American Indian Studies Center Faculty Advisory Committee (2021-present)
National Diversity Pathways and Fellowships Programs in Environmental Fields – Steering Committee (2021-present)
UC WOC geoscience faculty network, founder and participant (2020-present)
Cultivating cHampions and Allies Navigating Geoscience Equity (CHANGE) workshop organizer (2020-present)
Office of Vice Chancellor for Research and Creative Activities - Diversity in Research Committee (2019-2022)
Ethics in computer science education working group (2021-2022)

Geochemical Society - Diversity Committee (2020-2021)
Supported workshops and conferences focused on inclusion in STEM, including Reclaiming STEM (2019, 2020), Inclusive Sustainability at UCLA (2020), Behind the STEAMH (2020)
Helped to support student and postdoc-led initiative to develop Earth Science Mentor Match (2mentormatch.github.io) (2020)
National Diversity Pathways and Fellowship Programs in Conservation and Environmental Fields – participant (2019-present)
Center for Diverse Leadership in Environmental Science founder and director working with >130 early career fellows from >20 institutions across the US, and 23 STEM faculty fellows (2018-present)
Supported video storytelling projects about 19 of our students experiences with inclusion in STEM (2019)
Participant in video storytelling projects relating to inclusion in STEM led by Kendall Moore (URI) and Catalina Martinez (NOAA) (2019)
Invited participant in NSF-supported workshop Academic Incivility in STEM (2019)
Led workshop on Organizing for Change in Higher Education for the Doris Duke Conservation Scholars Program (2019)
Invited participant in workshop on the Future of Diversity Pathway Programs in Environmental Science (2019)
OASES (The Organization of African-American Students Excelling in STEM) talk (2017)
PEERS (Program for Excellence in Education and Research in the Sciences) talk (2017)
UCLA Diversity Course Symposium Co-organizer (2017)
Faculty panelist on work-life balance: California Alliance AGEP Meeting at UCLA (2017)
Advisory board, 500 Women Scientists – organization of 19,000+ womyn scientists (2016-2017)
Diversity Initiative Steering Committee (2016-2017)
Institute for the Environment and Sustainability Diversity Committee representative (2016-2017)
Developing course for UCLA College Undergraduate Diversity Requirement (2016-2017)
Leadership committee, 500 Women Scientists (2016)
Keynote lecture at ADSE (Alliance for Diversity in Science and Engineering) Meeting (2016)
Invited participant in NSF-supported workshop Sexual Harassment in the Sciences: A Call to Respond, (2016)
Climate for Diversity in Physical Sciences Town Hall Facilitator (2016)
Established two peer mentoring facebook groups: Equity and Inclusion in Geoscience and Environmental Science, and Society for Difficult Women (2016)
Member of Earth Science Women's Network (ESWN) and ESWN's Diversity Task Force (2015-present)
Active proponent of UCLA College Undergraduate Diversity Requirement in Division of Physical Sciences (2015)
Faculty panelist: California Alliance AGEP Meeting at Caltech (2015)
Wrote letter to Science and AAAS about damaging stereotypes in science that garnered 600+ signatures and prompted a discussion on what can be done to support diversity in STEM, and responded to academics and media outlets on subject (2015)

Department Service (Earth, Planetary, and Space Sciences)
Departmental Representative to Physical Sciences Division Diversity Committee (2018-2019)
Clean Lab Facility Committee (2015-present)
Website committee (2015-2017)
Faculty search committee for Geologist, reached out to excellent candidates from diverse backgrounds, including the person we eventually hired (2015)
Educational and Public Outreach committee (2014-present)
Departmental liaison for programs involving minors (2012-present)
Ad hoc committee member for personnel actions (2010-present)
Faculty Relations Committee (2010-2012)
Departmental Scribe (Winter-Spring 2011, Spring 2012, Fall 2016)
IGPP Fellowship Committee (2010-2011)

Department Service (Institute of the Environment and Sustainability)
Faculty Director, Center for Diverse Leadership in Science (2017-present)
Speaker, IoES Gala (2018)
Ph.D. Program Co-Director (2017-2018)
IoES Awards Committee Chair (2016-present)
Faculty Advisory Committee for Environmental Science B.S. Program (2015-present)
Leaders in Sustainability Faculty Advisory Committee (2014-present)

10. Public Impact

Public impact (Recent):

- Research with Esperanza Community Housing community fellows and students, on planning and implementation of Promotoras community-engaged research and education, including GIS for Community Health, contributing to science-informed decision-making with SB1137 (2018-present)
- Collaborations with Museum of Contemporary Art (MOCA) in Los Angeles and Rebecca Lowery, Josh Kline, Haley Mellin, Kelsey Shell, for their series *Climate Conversations* (2024)
- Collaborations with youth and young adult activists and community fellows and early career fellows on engagement relating to evidence-based decision making related to repeal of SB 1137, 1497, Genesis v. EPA (2018-present)
- Assessment research relating to tribal and community partnerships with UCLA (2019-present)
- Research with the Gabrielino-Tongva Band, at the request of Elders, on measurement and interpretation of geochemical data for water samples from Kuruvunga Springs, and impacts of tribal co-management, with fellows. Fellows engaged in native plant restoration and stewardship, discussions of native foods and food sovereignty, cultural wellness, and curriculum. Tongva stewardship of the sacred spring site will continue and another spring will be liberated. (2020-present)
- Collaborated with the Broad Museum and Flaunt Magazine on #infiniteLA, a series for Yayoi Kusama's Infinity Mirrors exhibition featuring different community leaders including Black Lives Matter co-founder Patrisse Cullors, Homeboy Industries founder Father Greg Boyle, artist Mark Bradford. I discussed Mirrored Room—The Souls of Millions of Light Years Away as an allegory for human potential, social justice, and our relationships with each other and the natural world; this is the most photographed piece in the world. https://www.thebroad.org/infinitela
- Collaborated with the Broad Museum as an advisor on Joseph Beuys: 7000 Oaks and Social Forest: Oaks of Tovaangar, on reforestation and ecological reconciliation and social justice in the face on climate change, and developing a project to monitor impacts on ecosystems, people, communities, and climate resilience, and published a creative piece (2022-present).
- Collaborated to create a Storytelling as Medicine video series highlighting stories of students sharing the meaning of mentorship and their passions and aspirations, and a video series for Veterans in STEM (2019-present).
- Highlighted in films by Professor Kendall Moore in the Can We Talk? series, on Allyship and equity-minded leadership, and Decolonizing STEM, shown at NAS, and STEM departments and societie (2018-present).
- Collaborated with Jimmy Kimmel on two features relating to climate change, reaching ~3M people.
- Created Youtube Channel with student videos on environmental issues from a film festival I organize regularly as part of a class, with over 30,000 views (2010-present)
- Creative activities relating to storytelling, including support of youth and elders sharing stories to the fellows community and to other communities (their own communities, scientific conferences, National Academies of Science, open science meetings) (2018-present)
- Using storytelling as a tool for advancing informed policy (relating to repeal of SB 1137, 1497, for Genesis v. EPA) (2018-present)

Storytelling for envisioning different environmental futures (Climate Storytelling 2075 project, Eco Afro Futures, Indigenous stewardship and water quality and spring liberation, Native plant restoration, impacts of agribusiness on soil health and environmentally reparative approaches),, for intergenerational discussions (Science as ceremony, Native foods and intergenerational engagement and cultural re-learning, developing green energy and green workforce in areas that oil/gas/refining has historically/currently recruited from) (2023-present).

Public impact (Earlier):

Answered questions pertaining to climate change and ocean acidification on >20 occasions as service, including for Union of Concerned Scientists; wrote technical comment on ocean acidification for NOAA and Center for Biological Diversity; provided expert testimony (2011-present)

Organized workshops and given talks on applying for graduate and postdoctoral fellowships (2011-present)

Designed multiple exhibits and presented them with members of research group for UCLA's Annual Physical Sciences Outreach Day (2011-present)

Scientific American (2020)

Futures CoLab, Disrupting systems for global sustainability (2019)

Community awards and hires of opportunity nominating committee for people from marginalized groups (2018-2019)

Panelist, Diversity at Environmental Organizations, North American Carbon World Conference (2019)

Multiple NPR Interviews During Climate Week (2019)

Southern California Green Teams (2019)

North American Carbon World (2019)

Do-Fest (2018)

Climate Justice Forum, Environmentalists of Color Collective (2018)

Summary newsletter of recent federal actions relating to climate and the environment (2017)

Climate Change Public Service Announcement, Jimmy Kimmel Live (2 million views live, 930,000+ views on youtube), and responded to academics and media outlets on subject (2016)

Developed an annual *Oceanography Student Film Festival* as part of a course to non-geoscience students that I teach. Students have to submit science communication projects. Winning videos are online and are circulated to K-12 science educators through my class youtube channel. One student video has over 21,000 hits! (2011-present)

Women in Philanthrophy at UCLA, Challenges in climate science and higher education in a changing landscape (2016)

Bruin Family Weekend- Hidden in Rock, Frozen in Time: Understanding Extreme Climate Change (2016)

UCLA Luskin Symposium: Earth Now, Earth 2050 (2016)

Zocalo/UCLA event: Panelist discussing if fracking is good for California at event moderated by LA Times journalist (2015)

Speaker – Know Tomorrow UCLA student event on climate change (2015)

Interviewed by Xinhua News Agency on climate change (2012-2013)

Women in Philanthropy at UCLA: Panelist on Thriving in a Hotter Los Angeles (2014)

Awards judge at L.A. Basin Earth and Planetary Student Research Symposium (2014, 2011)

Worked with foster students and students in shelters through Haven House (2012)

Co-developed first university Mindshare public outreach event for the Division of Physical Sciences at UCLA with Douglas Campbell, the co-founder of Mindshare. This was a geoscience cafe (think TedX meets art festival) that featured a series of talks by departmental faculty and exhibits by members of our department, as well as art installations. 200-300 people attended the event, and several thousand people watched the event online (2012)

Science fair judge for American Geological Institute at Intel Science Fair (2011)

Participant in Communicating Science in a Challenging Media Environment – Union of Concerned Scientists (2011)
Participant in Alan Alda workshop on Communicating Science – Kavli Foundation (2011)
Developed concept map to communicate how geological data are used to study climate processes and national climate literacy principles to high school students as a faculty participant in COSEE workshop; taught group of four graduate student participants how to do the same (2011)
Interviewed by Fiji TV for US State Dept.-supported documentary on climate change (2011)
Cambridge Science Festival lecture on paleoclimate to the public (2011)
Gave seminar at workshop on academic research and applying to graduate school to undergraduates in ACCESS program at Loyola Marymount University (2010)
Interviewed by New Scientist on research and climate change issues (2010)
Comenius lectures - to business people on climate change (2006-2009)
Interviewed by *Time Magazine* on research and climate change issues (2009)
Interviewed by *Scientific American* on research and climate change issues (2009)
Interviewed by *BBC* on research and climate change issues (2009)
Interviewed by *Columbian National Public Radio* on research and climate change issues (2009)
Grant and proposal writing workshop - Association of Black Women in Higher Education (2009)
Research on new isotopic technique featured on *Discovery Channel* website (2009)
Advised BBC Program *Blue Peter* for episode "Green Peter" on climate change (2007)
I'm a Scientist, Get me out of here! Participant (2008 – won third place!)
Engineering and Physical Sciences Research Council 'NOISE – New Outlooks in Science and Engineering' role model and MentorSET participant (2004-2008)
Royal Society of Chemistry: What Chemistry has done for me (2007)
Interviewed by *Cambridge Evening News* (2004, 2006)
Interviewed by *Spectrum* and *Mint* (2004)

K-12 outreach

Women in STEAM
Work with high school students and teachers on research projects
Hosted K-12 students from schools in Los Angeles and Riverside County in laboratory tours
Hosted students from Project Scientist, non-profit dedicated to girls in STEM
Organized hands-on science experiments at two family shelters
Science fair judge for American Geological Institute at Intel Science Fair
Faculty participant, "Geoscience fundamentals in the Field" – Three week course for middle and high school science teachers
Developed lesson plan for secondary school students on "Fossils and climate change" focused on understanding the climate history of Antarctica and Nebraska for the past 160 million

Science/Climate science communication training

Science communication workshop for Santa Monica College students (2014)
Communicating Science in a Challenging Media Environment – Union of Concerned Scientists (2011)
Communicating Science – Kavli-CNSI (2011)
Making a concept map to communicate – COSEE (2011)
Using discovery-based learning techniques to stimulate critical thinking – Dave Harwood (2010)
Keynote lecture on resilience at ADSE (Alliance for Diversity in Science and Engineering) Young Researchers Annual Meeting (2016)

11. Examples of Scientific Impact

Invited Talks and Lectures

Keynotes and Plenaries

2024 Keynote lecture, Academia Sinica workshop, *Frontiers of carbonate clumped isotope geochemistry as an applied tool in climatology and oceanography, within an inclusive science framework*
2023 Convocation: Berea College, *Bringing together diverse perspectives on water and climate*
2022 Tyndall Lecture: University of Bristol, *Frontiers in the study of climate and environmental change: From new tracers to an inclusive science framework*
2022 Keynote Lecture: South American Symposium on Isotope Geology, *Perspectives on South American paleoclimates from carbonate clumped isotope thermometry*
2022 Plenary lecture, International Conference on Paleoceanography, *Frontiers of carbonate clumped isotope thermometry, within an inclusive science framework*
2022 Plenary lecture, Challenger Society on Oceanography, *Frontiers of carbonate clumped isotope thermometry, within an inclusive science framework*
2022 Keynote lecture, New Horizons Conservation Conference, *Environmental imagination and justice*
2022 Southeastern Biogeochemistry Symposium, *Clumped isotope geochemistry and paleoclimate*
2021 Keynote lecture, Oregon State University, *Racism and culture in STEM and society*
2021 Keynote lecture, Rutgers University, *Frontiers of carbonate clumped isotope thermometry, within an inclusive science framework*
2021 Bromery conversation, Geological Society of America
2020 Keynote lecture, International Conference on Paleoceanography and Paleoclimate
2019 Keynote lecture, North American Carbon World
2019 Keynote lecture, Climate Justice Forum, Environmentalists of Color Collective
2018 Keynote talk, Just Inclusion, Do-Fest
2018 Keynote talk, East Los Angeles College
2016 Keynote lecture, Alliance for Diversity in Science and Engineering: *Resilience*
2015 Keynote lecture, PaleoOcean: *Emerging proxies in paleoceanography*
2014 Keynote talk, Clumped isotope workshop (ETHZ): *In search of processes driving observed clumped-isotope fractionations in geoscience systems: New insights from data and theory*
2013 Keynote lecture, Kongsberg Seminar (University of Oslo): *Cenozoic polar climates*

Invited talks - universities and research institutes and foundations (accepted invitations)

2025 UC Davis
2024 Scripps Institute of Oceanography: *Frontiers of carbonate clumped isotope geochemistry and inclusive STEM*
UC Riverside: *Frontiers of carbonate clumped isotope geochemistry and and inclusive STEM*
NASEM: *Ocean Justice and Environmental Imagination*
Waverley Foundation: *From Environmental Imagination to Climate Action*
2023 Earth-Life Science Institute and Tokyo Institute of Technology: Frontiers of carbonate clumped isotope geochemistry as an applied tool in climatology and oceanography, within an inclusive science framework
2022 Wellcome Trust: *Access and belonging fuel health, diversity, and discovery in STEM*
University of Bristol BRIDGE (Geography): *Bringing together diverse perspectives on water and climate*
British Antarctic Survey: *Carbonate clumped isotope geochemistry as an applied tool in paleoceanography and paleoclimate*
Cambridge Geography: *Bringing Together Diverse Perspectives on Water and Climate*
Woods Hole Oceanographic Institution/MIT: *Frontiers of carbonate clumped isotope geochemistry and inclusive STEM*
Stanford University: *Frontiers of carbonate clumped isotope geochemistry and inclusive STEM*
Brown University (2 talks): *Environmental imagination, justice, and the university* and

Frontiers of carbonate clumped isotope geochemistry and inclusive STEM
Simons Foundation: *Enacting change in your organization through an equity lens*
Boise State University: *Frontiers of carbonate clumped isotope geochemistry and inclusive STEM*

2021 MIT: *Frontiers of carbonate clumped isotope geochemistry within an inclusive science framework*
Yale: *Frontiers of carbonate clumped isotope geochemistry within an inclusive science framework*
Purdue: *Frontiers of carbonate clumped isotope geochemistry within an inclusive science framework*
Simons Foundation (2 talks): *Access and belonging fuel diversity and discovery in STEM* and *Transforming culture in STEM: Empowering people everyday and being in community*
Barnard College: *Hidden in Ice, Frozen in Time*
University of Colorado, Boulder: *Frontiers of carbonate clumped isotope geochemistry within an inclusive science framework*
Virginia Institute of Technology (2 talks): *Frontiers of carbonate clumped isotope geochemistry within an inclusive science framework* and *Transforming geoscience* and *environmental science: An ecosystem approach to broaden pathways and advance systemic change*
Rutgers University: *Frontiers of carbonate clumped isotope geochemistry within an inclusive science framework*
Oregon State University (2 talks): *Frontiers of carbonate clumped isotope geochemistry within an inclusive science framework* and *Transforming geoscience and environmental science: An ecosystem approach to broaden pathways and advance systemic change*
University of Maryland, College Park: *Frontiers of carbonate clumped isotope geochemistry within an inclusive science framework*
John Hopkins University: *Frontiers of carbonate clumped isotope geochemistry within an inclusive science framework*
University of Southern California: *Frontiers of carbonate clumped isotope geochemistry in paleoclimate and paleoceanography*
University of Pittsburgh: *Frontiers of carbonate clumped isotope geochemistry within an inclusive science framework*
Texas A&M University: *Carbonate clumped isotope geochemistry as an applied tool in paleoceanography and paleoclimate*
University of Cincinnati: *Frontiers of carbonate clumped isotope geochemistry within an inclusive science framework*

2020 Lamont-Doherty Earth Observatory at Columbia University: *Carbonate clumped isotope geochemistry as an applied tool in paleoceanography and paleoclimate*
UC Santa Cruz: *Carbonate clumped isotope geochemistry as an applied tool in paleoceanography and paleoclimate*
University of Leeds: *Carbonate clumped isotope geochemistry as an applied tool in paleoceanography and paleoclimate*
University of Alberta: *Frontiers of carbonate clumped isotope geochemistry in paleoceanography and paleoclimate*
London Paleoclimate Network: *Carbonate clumped isotope geochemistry as an applied tool in paleoclimate*
Science Philanthropic Alliance: *Why diversity and inclusion need to be a pillar of US science in the 21st century*
Packard Convening on Climate and the Oceans: *Racial equity and justice and the need to reform our institutions in ocean and climate science*
UCLA Social Sciences Dean and Chairs Meeting: *Center for Diverse Leadership in Science*
University of Wyoming: *Transforming green science: Changing the culture and widening*

the pathways

2019 University of Utah (2 talks and student roundtable): *Frontiers in the study of past climate and environmental change: From new tracers to an inclusive science model*, and *Glacial climate from clumped isotope thermometry*

Arizona State University (2 talks and student roundtable): *Transforming STEM: Changing the culture and widening the pathways*, and *Glacial climate from clumped isotope thermometry*

California State University, Northridge (2 talks): *How recrystallized are foraminifera in ancient ocean sediments?* And *Transforming STEM: Changing the culture and widening the pathways*

University of Rhode Island (talk and panel): *Transforming Geoscience and Environmental Science: Changing the culture and widening the pathways*

University of California, Merced (2 talks): *Glacial climate from clumped isotope thermometry,* and *Transforming STEM: Changing the culture and widening the pathways*

2018 National Science Foundation (2 talks): *Transforming STEM: Changing the culture and widening the pathways in Environmental Science and Geoscience* and *New frontiers in the study of past climate and environmental change*

Navajo Technical University: *Studying the history of climate and environmental change*

Scripps Institute of Oceanography: *Glacial climate from clumped isotope thermometry*

UCLA Physics and Astronomy Department Diversity Committee: *Center for Diverse Leadership in Science*

UCLA Division of Physical Sciences Diversity Committee: *Center for Diverse Leadership in Science*

2017 California State University, Fullerton: *Glacial climate from clumped isotope thermometry*

University of Iowa (3 talks): *Glacial climate from clumped isotope thermometry; New frontiers in the study of past climates and environmental change; Discovering ice on a "greenhouse" planet: A new paradigm for the Eocene greenhouse-icehouse transition*

Los Alamos National Laboratory Physics Colloquium: *Insights into regional patterns of warming and climate change since the last ice age from novel methods*

2016 University of California, Santa Cruz: *Glacial climate from clumped isotope thermometry*

University of Minnesota: *Clumped isotope geochemistry and paleoclimate*

Florida State University: *Clumped isotope geochemistry and paleoclimate*

2015 Georgia Institute of Technology: *Clumped isotope geochemistry and paleoclimate*

University of Southern California: *Clumped isotope geochemistry and paleoclimate*

CNRS (Laboratory Domaine Oceanique): *Stable isotope geochemistry and paleoceanography*

IFREMER: *Stable isotope geochemistry and paleoceanography*

European Institute for Marine Sciences: *Stable isotope geochemistry and paleoceanography*

2014 University of Michigan, Ann Arbor: *New insights into paleoclimate from emerging proxies*

Rice University: *Clumped isotope geochemistry and paleoclimate*

University of Michigan, Ann Arbor: *Clumped isotope geochemistry and paleoclimate*

UCLA: *Clumped isotope geochemistry and glacial climate*

European Institute for Marine Sciences: *Clumped isotope geochemistry and paleoclimate*

2013 University of Copenhagen: *Clumped isotope geochemistry and applications to sedimentary geology*

University of California, Riverside: *Clumped isotope geochemistry and paleoclimate*

Royal Holloway - University of London: *Clumped isotope geochemistry and paleoclimate*

University of Virginia: *Glacial climate and clumped isotope thermometry*

University of Virginia: *Ocean pH and carbon dioxide levels from the chemistry of foraminifera*

Southern Methodist University: *Glacial climate from clumped isotope thermometry*

University of Tennessee, Knoxville: *Glacial climate from clumped isotope thermometry*
California State University, Northridge: *Glacial climate from clumped isotope thermometry*

2012 University of Edinburgh: *Clumped isotope geochemistry and paleoclimate*
Center for Applied Statistics, UCLA: *Other worlds: Geosciences problems in paleoclimate, biogeochemistry, and astrobiology that would benefit from the application of statistics*
Institute of the Environment and Sustainability, UCLA: *Insights into glacial climate from a novel geochemical method*
University of Wisconsin, Madison: *Recent developments in clumped isotope geochemistry and glacial climate*
University of Southern California: *Recent developments in clumped isotope geochemistry*
United States Geological Survey Stable Isotope Laboratory: *Recent developments in clumped isotope geochemistry*

2011 University of California, Berkeley: *Clumped isotope geochemistry and glacial climate*
University of California, Santa Barbara: *Reconstructing glacial climate using clumped isotope thermometry*
Cornell University: *Discovering ice on a "greenhouse" planet: Evidence for bipolar glaciation from 44 to 30 million years ago*
Cornell University: *Reconstructing glacial climate using clumped isotope thermometry*
University of California, Los Angeles: *Ocean pH and carbon dioxide levels from the chemistry of foraminifera*

2010 Institute for Marine Research, CNR: *New constraints on ocean acidification and temperature in the past from two novel geochemical proxies: foraminiferal B/Ca ratios and clumped isotope thermometry*

2009 Massachusetts Institute of Technology: *Clumped isotope thermometry in Holocene and Glacial foraminifera and coccoliths from the tropical Pacific Ocean*
Massachusetts Institute of Technology: *Ocean pH and carbon dioxide levels from the chemistry of foraminifera*
Scripps Institute of Oceanography: *Ocean pH and carbon dioxide levels from the chemistry of foraminifera*
University of Arizona: *Discovering ice on a "greenhouse" planet: Evidence for glacial ice in both hemispheres from ~44-30 Ma*
University of Southern California: *Holocene and Glacial temperatures in the West Pacific Warm Pool from ^{13}C-^{18}O bond abundance in foraminifera and coccoliths*
University of Southern California: *Ocean pH and carbon dioxide levels from the chemistry of foraminifera*

2008 Carnegie Institution, Department of Global Ecology: *Using the geologic record to probe climate-carbon cycle interactions*
University of California, Los Angeles: *Discovering ice on a "greenhouse" planet: Evidence for bipolar glaciation from 44 to 30 million years ago*
University of California, Irvine: *Discovering ice on a "greenhouse" planet:* Evidence *for bipolar glaciation from 44 to 30 million years ago*
University of Southern California: *Discovering ice on a "greenhouse" planet: Evidence for bipolar glaciation from 44 to 30 million years ago*
University of Birmingham: *Discovering ice on a "greenhouse" planet: Evidence for glacial ice in the Northern Hemisphere ~44-30 Ma*

2007 California Institute of Technology: *Discovering ice on a "greenhouse" planet: Evidence for bipolar glaciation 44 to 30 million years ago*
University of Cambridge: *Discovering ice on a "greenhouse" planet: Evidence for bipolar glaciation from 44 to 30 million years ago*
Imperial College: *Discovering ice on a "greenhouse" planet: Evidence for bipolar glaciation from 44 to 30 million years ago*
Rutgers University: *Discovering ice on a "greenhouse" planet: Evidence for bipolar glaciation from 44 to 30 million years ago*

GEOMAR/Univ. Kiel: *Discovering ice on a "greenhouse" planet: Evidence for glacial ice in the Northern Hemisphere ~44-30 Ma*

2006 University College, London: *Evidence for bipolar glaciation during the Eocene epoch (~40 Ma)*

2005 University of Stockholm: *Climatic consequences of rapid carbon addition to the atmosphere at the Paleocene-Eocene Boundary*

University of Stockholm: *Evidence for early bipolar glaciation (~42 Ma) associated with global carbon cycle changes*

University of Cambridge*: Evidence for early bipolar glaciation (~42 Ma) associated with global carbon cycle changes*

2004 University of Cambridge: *Marine paleoenvironments: New insights from the geochemistry of fossil shells*

2003 University of Cambridge: *Environmental change across the Paleocene-Eocene boundary*

2002 Stanford University: *Oxygen isotope systematics*

Texas A&M University: *Early Paleogene marine paleoenvironments: New insights from the geochemistry of fossil shells*

Additional invited presentations – conferences and workshops (accepted invitations)

2024 NASEM Climate Crossroads panel: *Transformational Higher Education Climate Action*

2023 International Lapse Rate workshop: *Tropical lapse rates: New perspectives from paleo and modern data*

2022 Justice in Geoscience: *Opening remarks*

2021 NAS: *Identifying New Community-Driven Science Themes for NSF's Support of Paleoclimate Research - BAJEDI*

EGU: *Practical recommendations on how to combat discriminatory work environments in academia*

2020 AMQUA Panel: *Racial equity and justice and Black Minds*

Geochemical Society Town Hall: *Racial equity and justice and Black Minds*

Behind the STEAHM: *Misconceptions in Science*

Ocean Science AGU: *Advancing systemic change through faculty and early career development to support retention and improved institutional climates*

Ocean Sciences AGU*: Transforming Green Science: Changing the Culture and Widening the Pathways*

NOAA panel: *Can We Talk? Obstacles Faced by People of Color in STEM and Strategies to Overcome Them*

NCAS panel: *Applying for jobs in atmospheric and ocean science*

SOARS panel: *Can We Talk? Obstacles Faced by People of Color in STEM and Strategies to Overcome Them*

2019 DOE Meeting: *Our Progress on Fundamentals and Frontiers in Carbonate Clumped Isotope Geochemistry – From paired mass 47 and mass 48 to the discovery of new isotope effects*

AGU: *Human-centered, relational geoscience*

AGU: *Transforming Geoscience and Environmental Science: Advancing Systemic Change Through Faculty and Early Career Development to Support Retention and Improved Institutional Climates*

2017 DOE Meeting: *New Discoveries – Controls on Carbonate Isotope Signatures in Carbonate Minerals*

2016 European Geosciences Union: *Greenland ice initiation and Arctic sea ice coincide with Eocene and Oligocene climate changes*

2015 Kavli Frontiers of Science Symposium: *New Frontiers in the Study of Pleistocene to Modern Records of Climate Change*

2014 DOE Meeting (Geoscience Models - Where are the rocks?): *In search of processes driving observed clumped-isotope (dis)equilibrium in geoscience systems: New insights from data and theory*

2013 American Geophysical Union Fall Meeting: *From wetlands to sauropods (?) and cold*

seeps: New perspectives on methane cycling in the Phanerozoic

Critical transitions workshop (NSF – CNNSF, China): *Carbonate clumped isotope thermometry: applications to sedimentary geology*

2011 Royal Society – Kavli workshop on the carbon cycle (UK): *Planktic foraminiferal B/Ca ratios*

2010 Carbonate diagenesis conference (China): *Carbonate clumped isotope thermometry: Principles and applications*

2009 Chapman Conference on Abrupt Climate Change (Ohio State University): *Holocene and Glacial temperatures in the West Pacific Warm Pool from ^{13}C-^{18}O bond abundance in foraminifera and coccoliths*

2007 European Geosciences Union Annual Meeting: *Early Cenozoic glacial history: Insights from Pacific records of seawater □^{18}O*

International Symposium on Antarctica in the Earth Sciences: *Evidence for glacial ice on Antarctica and the Northern Hemisphere during the Eocene and Oligocene: Insights from Pacific records of seawater □□^{18}O*

2006 European Geosciences Union Annual Meeting: *New results from ODP and IODP on the greenhouse-icehouse transition*

Ocean Drilling Program deciphering sea level change workshop: *New evidence for Middle Eocene to Early Oligocene bipolar glaciation associated with global carbon cycle changes*

2005 American Geophysical Union Fall Meeting: *Constraints on Paleocene and Eocene tropical sea-surface temperatures and meridional temperature gradients from Mg/Ca and oxygen isotope ratios of foraminifera from sediments recovered by the Ocean Drilling Program*

American Geophysical Union Fall Meeting: *New results from ODP and IODP on the greenhouse-icehouse transition: Evidence for Eocene bipolar glaciation associated with global carbon cycle changes*

Comer Annual Meeting (Columbia University): *Relationships between rapid changes in climate and the carbon cycle*

Aradhna Tripati
Full publication list

* indicates a student or postdoc mentee. Underline indicates corresponding author.

133. **Tripati, A.,** 2025, Reflection on Social Forest: The Oaks of Tovaangar, in Joseph Beuys - 7000 Oaks, *Broad Museum.*
132. **Tripati, A.,** Tandy, H.*, Villa, A.*, Flores, R.*, Carroll, H.*, Guillermic, M.*, Maradiaga, I.*, Blair, C.*, Zerehaimanot, B.*, Brown, D.*, Ulrich, R.*, Roman-Palacios, C.*, Kuppusamy, M., Bryant, R., de La Cruz, J.*, Chang, F., Eagle, R., Tomaiso, C.*, Marchitto, T., Came, R., Lynch-Stieglitz, J., in review 2025, Clumped isotope thermometry in foraminifera as a tool in paleoceanography: New planktic and benthic data and constraints on non-thermal effects, *Paleoceanography and Paleoclimatology.*
131. Tandy, H.*, Flores, R.*, Subhas, A., Schmidt, D., Khan, T., Gwak, S., Savage, L., Eagle, R., **Tripati, A.,** in review 2025, Dissolution effects on clumped isotope signatures in planktic foraminifera, *Paleoceanography and Paleoclimatology.*
130. Terrazas, A.*, Hwangbo, N.*, Arnold, A.*, Ulrich, R.*, **Tripati, A**., in press 2025, Seasonal lake-to-air temperature transfer functions derived from an analysis of 1395 modern lakes: A tool for reconstructing air temperature from proxy-derived lake water temperature, ***The Depositional Record***.
128. Mentzer, C., Garzione, C., Jaramillo, C., Hinojosa, L., Escobar, J., Glad, N., Gomez, S., Upadhyay, D., **Tripati, A**., Thirumalai, K., 2025, Late Miocene-early Pliocene hydroclimate evolution of the western Altiplano, northern Chile: Implications for aridification trends under warming climate conditions. ***Global and Planetary Change***. V. 245, 104674.
127. Deak, M.*, Porter, W., Mathewson, P., Lovelace, D., Flores, R.*, **Tripati, A.,** Eagle, R., Schwartz, D., Butcher, M., 2025, Metabolic skinflint or spendthrift? Insights into ground sloth integument and thermophysiology revealed by biophysical modeling and clumped isotope paleothermometry ***Journal of Mammalian Evolution,*** 32, https://doi.org/10.1007/s10914-024-09743-2.
126. Arnold, A.*, Mering, J.*, Santi, L.*, Roman-Palacios, C.*, …..**Tripati, A**., 2024. Comparative clumped isotope temperature relationships in freshwater carbonates. ***The Depositional Record***, 00, 1-26, https://doi.org/10.1002/dep2.312.
125. **Tripati, A.,** Shepherd, M., Morris, V., Andrade, K.*, Whyte, K.P., David-Chavez, D.M., Hosbey, J., Trujillo-Falcón, J.E., Hunter, B.*, Hence, D. and Carlis, D., 2024. Centering Equity in the Nation's Weather, Water, and Climate Services. ***Environmental Justice***, 17(1), pp.45-53.
124. Parvez, Z.A.*, El-Shenawy, M.I.*, Lucarelli, J.K.*, Kim, S.T., Johnson, K.R., Wright, K., Gebregiorgis, D., Montanez, I.P., Wortham, B., Asrat, A. and Reinhardt, E., Christiensen J., Matamoros I.*, Rubi J.*, Miguel K.*, Elliott B. M., Flores R.*, Kovacs S., Eagle R.A., **Tripati A**. 2024. Dual carbonate clumped isotope (Δ47-Δ48) measurements constrain different sources of kinetic isotope effects and quasi-equilibrium signatures in cave carbonates. ***Geochimica et Cosmochimica Acta***, 366, pp.95-112.
123. Moretti, S., Auderset, A., Deutsch, C., Schmitz, R., Gerber, L., Thomas, E., Luciani, V., Petrizzo, M.R., Schiebel, R., **Tripati, A.** and Sexton, P., 2024. Oxygen rise in the tropical upper ocean during the Paleocene-Eocene Thermal Maximum. ***Science***, 383(6684), pp.727-731.
122. Cenozoic CO2 Proxy Integration Project (CenCO2PIP) Consortium, Toward a Cenozoic history of atmospheric CO2. ***Science***, 382(6675), p.eadi5177.
121. Lucarelli, J.K.*, Purgstaller, B., Ulrich, R.N.*, Parvez, Z.*, Leis, A., Goetschl, K.E., Eagle, R.A., Dietzel, M. and **Tripati, A**., 2023. Dual clumped (Δ47-Δ48) isotope data for amorphous carbonates and transformation products reveal a novel mechanism for disequilibrium clumped isotope effects. ***Geochimica et Cosmochimica Acta***, 359, pp.119-134.
120. Marvel, K., W. Su, R. Delgado, S. Aarons, A. Chatterjee, M.E. Garcia, Z. Hausfather, K. Hayhoe, D.A. Hence, E.B. Jewett, A. Robel, D. Singh, A**. Tripati**, and R.S. Vose, 2023: Ch.

2. Climate trends. In: **Fifth National Climate Assessment**. Crimmins, A.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, B.C. Stewart, and T.K. Maycock, Eds. U.S. Global Change Research Program, Washington, DC, USA. https://doi.org/10.7930/NCA5.2023.CH2

119. Ostoja, S.M., A.R. Crimmins, R.G. Byron, A.E. East, M. Méndez, S.M. O'Neill, D.L. Peterson, J.R. Pierce, C. Raymond, **A. Tripati**, and A. Vaidyanathan, 2023: Focus on western wildfires In: **Fifth National Climate Assessment**. Crimmins, A.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, B.C. Stewart, and T.K. Maycock, Eds. U.S. Global Change Research Program, Washington, DC, USA. https://doi.org/10.7930/NCA5.2023.F2
118. Bricker, H.L.*, Bateman, J.B.*, Elliott, B., Mitsunaga, B.A.*, Mering, J.*, Foster, I.S.*, Yanes, Y., Oches, E.A., Eagle, R.A. and **Tripati, A**., 2023. A multi-region study of carbonate clumped isotope data from terrestrial snails. ***Palaeogeography, Palaeoclimatology,*** Palaeoecology, 628, p.111754.
117. Hunter, B.*, **Tripati A**., Coleman Flowers C., Wilson O., Wilson B., 2023, Theories of Change: A Framework to Improve Engineering Efforts to Advance Environmental Justice. ***Environmental Justice***. 16., pp. 390-402
116. Lee, H.I.*, Mitchell, J.L., Lora, J.M.* and **Tripati, A**., 2023. Influence of stationary waves on precipitation change in North American summer during the Last Glacial Maximum. ***Journal of Climate***, 36(10), pp.3165-3182.
115. Parvez, Z.*, Lucarelli, J.*, Mataramos, I.*, Rubi, J.*, Miguel, K.*, Elliott, B.*, Flores, R.,*, Ulrich, R.*, Eagle, R., Watkins, J., Christensen, J., **Tripati, A.,** 2023, Dual carbonate clumped isotopes (Δ_{47}-Δ_{48}) constrains kinetic effects and timescales in peridotite-associated springs at The Cedars, Northern California, ***Geochimica et Cosmochimica Acta***.
114. Lucarelli, J.*, Carroll, H.*, Eagle, R., **Tripati, A**., 2023, Paired carbonate standard clumped isotope (□47 and □48) values on the absolute reference frame from equilibrated gas and carbonate standard-based transfer functions, ***G-cubed***.
113. Lopez-Maldonado*, Bateman, J.*, Ellis, A., Bader, N., Ramirez, P., Tabor, C., Jesmok, G.*, Upadhyay, D.*, Mitsunaga, B.*, Elliott, B.*, Lora, J.*, **Tripati, A.**, 2023, Temperature and hydrological cycle changes in the Pacific Northwest Over the Past 36,000 years from clumped isotope and model analysis.
112. **Tripati, A.,** Shepherd, M., Morris, V., Glackin, M., Falcon, J.T., Whyte, K.P., Andrade, K.*, Hunter, B.*, Myrbo, A., 2023, Centering Equity and Justice in the Nation's Weather, Water, and Climate Services, ***Environmental Justice***.
111. Griffiths, M., Eagle, R., Kim, S., Flores, R.*, Tripati, A., and 7 co-authors, 2023, Endothermic physiology of extinct megatooth sharks, ***PNAS.***
110. Goudmit, B. Lansu, A., Baatsen, M., von der Heydt, A., de Winter, N., Zhang, Y., Abe-Ouchi, A., de Boer, A., Chan, W., Donnadieu, Y., Hutchinson, D., Knorr, G., Ladant, J., Morozova, P., Niezgodski, I., Steinig, S., **Tripati, A.,** Zhang, Z., Zhu, J., Ziegler, M., 2023, The relationship between global mean deep-sea and surface temperature during the Early Eocene, ***Paleoceanography and Paleoclimatology***.
109. Chen, C.*, Kahanamoku, S.*, **Tripati, A.,** Alegado, R., Andrade, K.*, Morris, V., 2022, Decades of systemic racial disparities in NSF funding rates, ***e-Life***.
108. Jones, M.*; Hoague, D.*; Spriggs, R.*; Catalan, E.*; Adams, N.*; Watkins, T.; **Tripati, A**.; Norris, K., 2022, A Framework for Authentic Community-University Research, ***Ethnicity and Disease.***
107. Richter, F. *, Garzione, C., An, Z., Liu, W., Qiang, X., Chang, H., Cheng, F., Li, X., **Tripati, A**., 2022, High elevation record of Plio-Pleistocene global cooling and surface uplift for the northeastern Tibetan Plateau, *GSA Bulletin*
106. Meckler, N., Sexton, P., Piasecki, A., Leutert, T.*, Marquardt, J., Ziegler, M., Agterhuis, T., Rae, J., Barnet, J., **Tripati, A**., Bernasconi, S., 2022, Cenozoic evolution of deep-sea temperature from clumped isotope thermometry, ***Science***.
105. Cheng, F.*, Garzione, C., Li, X., Salzmann, U., Schwarz, F., Haywood, A., Tindall, J., Nie, J., Li, L., Wang, L., Elliot, B., Liu, W., Uphadahay, D.*, Arnold, A.*, **Tripati, A**., 2022, Alpine permafrost could account for a quarter of thawed carbon based on Plio-Pleistocene paleoclimate analogue, ***Nature Communications.***
104. Chang, B.*, Li, C., Huang, J., Huang, K., Lloyd, M., Luo, G., She, Z., Xie, S., Tong, J., Zhu,

M., Algeo, T., Lyons, T., Foster, I.*, **Tripati, A**., 2022, A ~60-Myr-long, high-resolution record of Ediacaran paleotemperature, ***Science Bulletin***.

103. Linol, B., Bauer, A., Lombardo, A., Montanez, I., Upadhyay, D.*, Jesmok, G.,*, Kelley-Cosio, A.*, **Tripati, A.,** de Wit, M., 2021, Towards disentangling climate and tectonic changes of southernmost Africa using strontium isotope stratigraphy and clumped isotopes, ***South African Journal of Geology***.
102. Nirmal, B., Mohan, K., Prakasam, M., **Tripati, A**., Mortyn, P.G., Rodriguez-Sanz, L., 2021, Pleistocene surface-ocean changes across the southern subtropical front recorded by distinct morphotypes of Orbulina universa and oxygen isotope analysis, ***Marine Micropaleontology***.
101. Prasanna, K., Ghosh, P., Eagle, R., **Tripati, A**., Kapur, V., Feeney, R., Fosu, B., Mishra, D., 2021, Temperature reconstruction for early Lower Miocene (Burdigalian) of India using a revised otolith based calibration of the carbonate 'clumped isotope' paleothermometer, ***G-*** cubed.
100. Guillermic, M.*, Misra, S., Eagle, R., **Tripati, A**., 2022, Atmospheric CO2 estimates for the last 17 million years based on foraminiferal □11B at Ocean Drilling Program Sites 806 and 807 in the Western Equatorial Pacific warm pool, ***Climate of the Past***.
99. Pourret, O., Middleton, J., Ibarra, D.E., Irawan, D.E., Rouff, A., Anand, P., **Tripati, A.,** Riches, A.J. and Dosseto, A., 2021. Diversity among Editorial Boards of Elements and other selected Geochemistry, Cosmochemistry, Mineralogy and Petrology journals. ***Elements***, 17, 150-152.
98. Terrazas, A.*, Kowler, A.*, Santi, L.*, Marshall, K.*, Geoman-Shulsky, S.*, Arnold, A.*, Tripati, A., 2021, Evolution of hydroclimates since the Last Glacial Maximum: New Insights from Clumped Isotope Results from Willcox Basin, Arizona, ***USJ***.
97. Ulrich, R.*, Guillermic, M.*, Campbell, J.*, Hakim, A. *, Han, R. *, Singh, S*, Stewart, J., Roman-Palacios, C. *, Carroll, H. *, DeCorte, I. *, Gilmore, R. *, Doss, W. *, **Tripati, A.,** Ries, J., Eagle, R., 2021, Patterns of trace and minor element incorporation in carbonate biominerals recapitulate phylogeny for diverse marine organisms, ***Frontiers in Earth Science***.
96. Sun, F., Wang, Y., Jablonski, N., Hou, S., Ji, X., Wolff, B., **Tripati, A**., Cao, J., Yang, X., 2021, Paleoenvironment of the Late Miocene Shuitangba hominoids from Yunnan, Southwest China: Insights from stable isotopes, ***Chemical Geology***.
95. Bernasconi, S., and many authors including Uphadhyay, D.*, Lucarelli, J.*, **Tripati, A**., 2021, A community effort to improve inter-laboratory standardization of the carbonate clumped isotope thermometer using carbonate anchors, ***Geochemistry, Geophysics, Geosystems***
94. Upadhyay, D.*, Lucarelli, J.*, Arnold, A.*, Flores, R.*, Bricker, H.*, Ulrich, R.*, Jesmok, G.*, , Defliese, W.*, Eagle, R., Carroll, H.*, Bateman, J.*, Petryshyn, V.*, Loyd, S.*, Tang, J.*, Priyadarshi, A.*., Elliott, B., **Tripati, A.,** 2021, Carbonate clumped isotope analysis (Δ_{47}) of 21 carbonate standards determined via gas source isotope ratio mass spectrometry on four instrumental configurations using carbonate-based standardization and multi-year datasets, ***Rapid Communications in Mass Spectrometry***.
93. Li., H.*, Liu, X., Arnold, A.*, Elliott, B., Flores, R.*, Kelley, A.*, **Tripati, A.**, 2021, Clumped isotope signatures in modern lacustrine authigenic carbonates and implications for paleotemperature and paleoelevation reconstructions, ***EPSL***.
92. Wang, Y., Passey, B., Roy, R., Deng, T., Jiang, S., Wang, X., Lochner, E., **Tripati, A**, 2021, Clumped isotope thermometry of fossil and modern snail shells from the Himalayan-Tibetan Plateau: implications for paleoclimate and paleoelevation reconstructions, ***GSA Bulletin.***
91. Kittinger, J., Cheng, S., Neher, J., Scoville-Weaver, A., Ahumada, J., Tripati, A., Lout, G., (2021), Preparing conservation practitioners for the Anthropocene, ***Frontiers in Ecology***.
90. Li, H., Liu, X., **Tripati, A.,** Feng, S., (2021), Controls on the oxygen isotope composition of lacustrine authigenic carbonates, ***Scientific Reports***.
89. Defliese, W.*, **Tripati, A.,** 2020, Analytical effects on clumped isotope thermometry: Comparison of a common sample set run using multiple instruments and methods***, Rapid Communications in Mass Spectrometry,*** doi.org/10.1002/rcm.8666.
88. Meinicke, N.*, Ho, S., Hannisdal, B., Nurnberg, D., **Tripati, A**., Schiebel, R., Meckler, A., 2020, Calibration of the clumped isotope thermometer for planktonic foraminifers,

Geochimica et Cosmochimica Acta.

87. Santi, L.*, Arnold, A.*, Ibarra, D., Whicker, C.*, Mering, J.*, Lomarda, R.*, Lora, J.*, **Tripati, A**., 2020, Clumped Isotope Constraints on Changes in Hydroclimate in the Northwest Great Basin: Lake Surprise, California, ***GSA Bulletin.***
86. Guillermic, M*, Misra, S., Eagle, R., Villa, A.*,Chang, F., Tripati, A., 2020, Seawater pH reconstruction using boron isotopes in multiple planktonic foraminifera species with different ecological niches and their potential to constrain pH and pCO2 gradients, ***Biogeosciences.***
85. Hill, P.*, Schauble, E., **Tripati, A.,** 2020, Theoretical constraints on the effects of added cations on clumped, oxygen, and carbon isotope signatures of dissolved inorganic carbon species and minerals, ***Geochimica et Cosmochimica Acta***.
84. Chang, B.*, Li, C., Huang, J., Defliese, W.*, **Tripati, A**., 2020, The effect of Brand parameter conversion and carbonate standard correction on reconciling inter-laboratory incomparability, ***Rapid Communications in Mass Spectrometry.***
83. Chang, B.*, Li, C., Foster, I.*, **Tripati, A.,** Lloyd, M., Ryb, U., Luo, G., An, Z., She, Z., Xie, S., Tong, J., Zhu, M., Algeo, T., Huang, J., 2020, Evidence for formation of massive low-temperature dolomites in Ediacaran oceans, ***PNAS.***
82. Lee, Hung-I*, Mitchell, J., **Tripati, A**., Lora, J.*, Chen, G., Huang, C., Ding, Q., 2020, North Pacific and Atlantic water vapor ribbons and monsoon onset prediction in East Asia**,** ***Geophysical Research Letters.***
81. Dixit, Y.*, Toucanne, S., Lora, J.*, Fontanier, C., Pasquier, V.*, Bonnin, L.*, Jouet, G., **Tripati, A**., 2020, Enhanced western Mediterranean rainfall during past interglacials driven by North Atlantic pressure changes, ***Quaternary International.***
80. Petryshyn, V.*, Greene, S., Farnsworth, A., Lunt, D., Kelley, A.*, Gammariello, R.*, Ibarra, Y., D., Bottjer, D., **Tripati, A**., Corsetti, F., 2020, The role of temperature in the initiation of the end-Triassic mass extinction, ***Earth Science Reviews***.
79. Santi, L.*, Arnold, A.*, Ibarra, D., Whicker, C.*, **Tripati, A**., 2019, Fluctuations in lake level in the Northern Great Basin for the Last Deglaciation, ***Proceedings of the Desert Symposium***, 176-186.
78. Leutert, T.*, Sexton, P., **Tripati, A**., Piasecki, A., Ho, S., Meckler, A., 2019, Assessing the effects of diagenetic alteration on the clumped isotope paleothermometer in Middle Eocene planktic and benthic foraminifera, ***Geochimica et Cosmochimica Acta*** 257, 354-372.
77. Petersen S., Defliese W.*, Saenger C. Daëron M., John C., Bernasconi S., Colman A., Huntington K., Kelson J., Kluge T., Olack G., Schauer A.J., Bajnai D., Bonifacie M., Fiebig J., Fernandez A., Garcia de Real P., Henkes G., Katz A., Kele S., Lohmann K., Passey B., Petrizzo D., Rosenheim B. Tang J.*, **Tripati A**., Venturelli R., Young E., Wacker U., and Winkelstern I., 2019, Effects of Improved 17O Correction on Inter-Laboratory Agreement in Clumped Isotope Calibrations, Estimates of Mineral-Specific Offsets, and Temperature Dependence of Acid Digestion Fractionation, ***Geochemistry, Geophysics, Geosystems,*** doi.org/10.1029/2018GC008127.
76. Caesar, K., Kyle, J., Lyons, T., **Tripati, A**., Loyd, S., 2019, Calcite formation in salt dome cap rocks by microbial anaerobic oxidation of methane, ***Nature Communications***, doi:10.1038/s41467-019-08687-z.
75. Mitra, R., Marchitto, T., Ge, Q., Zhong, B., Kanakiya, B., Cook, M., Fehrenbacher, J., Ortiz, J., **Tripati, A**., Lobaton, E., 2019, Automated species-level identification of planktic foraminifera using convolutional neural networks, with comparison to human performance, ***Marine Micropaleontology*** 147, 16-24.
74. Zarkogiannis, S., Antonarakou, A., Mortyn P.G., Kontakiotis, G., Drinia, H., **Tripati A**., Greaves M., 2019, Influence of surface ocean density on planktonic foraminifera shell mass, ***Scientific Reports***, doi.org/10.1038/s41598-018-36935-7.
73. Hollis, C. J., Dunkley Jones, T., Anagnostou, E., Bijl, P. K., Cramwinckel, M. J., Cui, Y., Dickens, G. R., Edgar, K. M., Eley, Y., Evans, D., Foster, G. L., Frieling, J., Inglis, G. N., Kennedy, E. M., Kozdon, R., Lauretano, V., Lear, C. H., Littler, K., Meckler, N., Naafs, B. D. A., Pälike, H., Pancost, R. D., Pearson, P., Royer, D. L., Salzmann, Ulrich, Schubert, B., Seebeck, H., Sluijs, A., Speijer, R., Stassen, P., Tierney, J., Tripati, A., Wade,

B., Westerhold, T., Witkowski, C., Zachos, J. C., Zhang, Y. G., Huber, M. and Lunt, D. J., 2019, The DeepMIP contribution to PMIP4: methodologies for selection, compilation and analysis of latest Paleocene and early Eocene climate proxy data, incorporating version 0.1 of the DeepMIP database. Geoscientific Model Development Discussions, doi.org/10.5194/gmd-12-3149-2019.

72. **Tripati, A.** and Darby, D. (joint first author), 2018, Evidence for ephemeral middle Eocene to early Oligocene Greenland glacial ice and pan-Arctic sea ice, ***Nature Communications***, doi:10.1038/s41467-018-03180-5.
71. Doss, W., Marchitto, T., Eagle, R., Rashid, H., **Tripati, A**., 2018, Deconvolving the saturation state and temperature controls on benthic foraminiferal Li/Ca, based on downcore paired B/Ca measurements and coretop compilation, ***Geochimica et Cosmochimica Acta***, https://doi.org/10.1016/j.gca.2018.02.029.
70. Li, L., Fan, M., Davila, N.*, Jesmok, G.*, Mitsunaga, B.*, **Tripati, A**., and Orme, D., 2018, Carbonate stable and clumped isotopic evidence for late Eocene moderate elevation of the east-central Tibetan Plateau and its geodynamic implications for elevation, ***Geological Society of America Bulletin***.
69. Godfray, C., Fan, M., Jesmok, G., Upadhyay, D., **Tripati, A**., 2018, Petrography and stable isotope geochemistry of Oligocene-Miocene continental carbonates in south Texas: Implications for paleoclimate and paleoenvironment near sea-level, ***Sedimentary Geology***, 367, 69-83.
68. Srebotnjak, T., **Tripati, A.** (editors), 2017, Unconventional oil development in California's Monterey Shale: Characterizing the formation's geology, hydrocarbon productionpotential and associated environmental and health risks, ***Technical Working Paper No. 2***, Hixon Center for Sustainable Environmental Design, Harvey Mudd College, 98 pages (all technical papers within report authored by UCLA Physical Sciences undergraduate and graduate students).
67. Fan, M., Ayyash, S., Tripati, A., Passey, B., Griffith, E., Terrestrial cooling and changes in hydroclimate in the continental interior of the United States across the Eocene-Oligocene boundary, ***Geological Society of America Bulletin,*** 2017**,** doi.org/10.1130/B31732.1.
66. Lunt, D., Huber, M., Anagnostou, E., Baatsen, M., Caballero, R., DeConto, R., Dijkstra, H., Donnadieu, Y., Evans, D., Feng, R., Foster, D., Gasson, E., Von Der Heydt, A., Hollis, D., Inglis, G., Jones, S.. Kiehl, J., Turner, S., Korty, R., Kozdon, R., Krishnan, S., Ladant, J-B., Langebroek, P., Lear, C., LeGrande, A., Littler, K., Markwick, P., Otto-Bliesner, B., Pearson, P., Poulsen, C., Salzmann, U., Shields, C., Snell, K., Stärz, M., Super, J., Tabor, C., Tierney, J., Tourte, G., **Tripati, A**., Upchurch, G., Wade, B., Wing, S., Winguth, A., Wright, M., Zachos, J., Zeebe, R., 2017, The DeepMIP contribution to PMIP4: experimental design for model simulations of the EECO, PETM, and pre-PETM (version 1.0), ***Geoscientific Model Development,*** 10, 889-901.
65. Lora, J.*, Mitchell, J., Risi, C., **Tripati, A.,** 2017, North Pacific atmospheric rivers and their influence on western North America at the Last Glacial Maximum, ***Geophysical Research Letters,*** doi:10.1002/2016GL071541.
64. Sample, J., Torres, M., Fischer, A., Hong, W.-L., Destrigneville, C., Defliese, W.*, **Tripati A.,** 2017, Geochemical contraints on the temperature and timing of carbonate formation and lithification in the Nankai Trough, NanTroSEIZE transect, ***Geochimica et Cosmochimica Acta***, 198, 92-114.
63. Came, R., Azmy, K., **Tripati, A**., Olanipekun, B.-J., 2017, Comparison of clumped isotope signatures of dolomite cements to fluid inclusion thermometry in the temperature range of 73 to 176 °C, ***Geochimica et Cosmochimica Acta***, 199, 31-47.
62. Lora, J.*, Mitchell, J., **Tripati, A**., 2016, Abrupt reorganization of North Pacific and western North American climate during the last deglaciation, ***Geophysical Research Letters***, 43, 11796-11804.
61. Loyd, S.*, Sample, J., Orphan, V., Defliese, W.*, Dyke, K.*, Hovland, M., Torres, M., Marlow, J., Hancock, L., Lyons, T., **Tripati, A.,** 2016, Disequilibrium clumped isotope signatures observed in modern and ancient cold seep carbonates, ***Nature Communications***, 7, doi:10.1038/ncomms12274.

60. Wang, X. L., Planavsky, N. J., Hull, P. M., **Tripati, A.** E., Zou, H. J., Elder, L. and Henehan, M., 2016, Chromium isotopic composition of core-top planktonic foraminifera. ***Geobiology***. doi:10.1111/gbi.12198.
59. Levy, R., Harwood, D., Florindo, F., Sangiorgi, F., Eagle, R., Eynatten, H., Gasson, E., Kuhn, G., **Tripati, A.**, DeConto, R., Tripati, R., Fielding, C., Field, B., Golledge, N., McKay, R., Naish, T., Olney, M., Pollard, D., Schouten, S., Talarico, F., Warny, S., Willmott, V., SMS Science Team, 2016, Antarctic ice sheet sensitivity to atmospheric CO_2 variations during the Early to mid-Miocene, ***Proceedings of the National Academy of Sciences*****,** 113, 3453–3458.
58. Petryshyn, V.*, Rivera, M., Agić, H., Frantz, C., Corsetti, F., **Tripati, A**., 2016, Stromatolites in Walker Lake (Nevada, Great Basin, USA) record climate and lake level changes~ 35,000 years ago, ***Palaeogeography, Palaeoclimatology, Palaeoecology*** 451, 140-151.
57. Horton, T., Defliese, W.*, **Tripati, A**., Oze, C., 2016, Evaporation-induced ^{18}O and ^{13}C enrichment in lake systems: a global perspective on hydrologic balance effects on terrestrial stable isotope proxy records, ***Quaternary Science Reviews****,* doi:10.1016/j.quascirev.2015.06.030.
56. Abbott, A., Haley, B., **Tripati, A.,** Frank, M., 2015, Constraints on ocean circulation at the Paleocene-Eocene Thermal Maximum from neodymium isotopes, ***Climate of the Past****,* 12, 827-837.
55. Eagle, R., Enriquez, M.*, Grellet-Tinner, G., Perez-Huerta, A., Hu, D., Tutken, T., Montanari, S., Loyd, S.*, Ramirez, P., **Tripati, A.,** Kohn, M., Cerling, T., Chiappe, L., Eiler, J., 2015, Isotopic ordering in eggshells reflect body temperatures and suggest differing thermophysiology in two Cretaceous dinosaurs, ***Nature Communications***, doi:10.1038/ncomms9296.
54. Rabineau, M., Cloetingh, S., Kuroda, J., Aslanian, D., Droxler, A., Gorini, C., Garcia-Castellanos, D., Moscariellio, A., Hello, Y., Burov, E. Sierro, F., Lirer, F. Roure, F., Pezard, P.A. Matenco, L., Mart, Y. Camerlenghi, A., **Tripati, A**., and the GOLD and DREAM Working Groups, 2015, Probing connections between deep earth and surface processes in a land-locked ocean basin transformed into a giant saline basin: the Mediterranean DREAM-GOLD project, ***Marine and Petroleum Geology***, 66, 6-17.
53. **Tripati, A.,** Hill, P.*, Eagle, R., Mosenfelder, J., Tang, J.*, Schauble, E., Eiler, J., Zeebe, R., Uchikawa, J., Coplen, T., Ries, J., Henry, D.*, 2015, Beyond temperature: Clumped isotope signatures in dissolved inorganic carbon species and the influence of solution chemistry on carbonate mineral composition, ***Geochimica et Cosmochimica Acta****,* 166, 344-371.
52. Dalinana, R.*, Petryshyn, V.*, Lim, D., Braverman, A., **Tripati, A**., 2015, A method for determining if there are common environmental characteristics to microbialite-bearing aquatic systems, ***Biogeosciences Discussions***, 12, 10511-10544.
51. Loyd, S.*, Corsetti, F., Eagle, R., Hagadorn, J., Shen, Y., Zhang, X., Bonifacie, M., **Tripati, A**., 2015, Evolution of Neoproterozoic Wonoka-Shuram Anomaly-aged carbonates: evidence from clumped isotope paleothermometry, ***Precambrian Research***, 264, 179-191.
50. Petryshyn, V.*, Lim, D., Brady, A., Slater, G., Laval, B., and **Tripati A.**, 2015, Reconstruction of hydrology from microbialites using carbonate clumped isotope paleothermometer, ***Geobiology***, 13, 53-67.
49. Loyd, S.*, Dickson, J., Boles, J., and **Tripati, A.,** 2014, Clumped isotope constraints on cement paragenesis in septarian concretions, ***Journal of Sedimentary Research****,* 84, 1170-1184.
48. Antibus, J., Panter, K., Wilch, T., Dunbar, N., McIntosh, W., **Tripati A**., Blusztajn, J., and Bindeman, I., 2014, Alteration of volcaniclastic deposits at Minna Bluff, Antarctica: geochemical insights on mineralizing environment and climate during the Late Miocene, ***Geochemistry, Geophysics, Geosystems****,* doi: 10.1002/2014GC005422.
47. Frantz, C., Petryshyn, V.*, Marenco, P., **Tripati A**., Berelson, W., and Corsetti, F., 2014, Dramatic local environmental change during the Early Eocene Climatic Optimum detected using high-resolution analyses of Green River Formation stromatolites, ***Palaeogeography, Palaeoclimatology, Palaeoecology***, http://dx.doi.org/10.1016/j.palaeo.2014.04.001.
46. Gabitov, R., Rollion-Bard, C., **Tripati A.,** Sadekov, A., 2014, *In situ* study of boron content and $\delta^{11}B$ fractionation between calcite and fluid at different crystal growth rates, ***Geochimica et***

Cosmochimica Acta, http://dx.doi.org/10.1016/j.gca.2014.04.014.

45. Tang, J.*, Dietzel, M., Fernandez, A., **Tripati, A.**, Rosenheim, B., 2014, Evaluation of kinetic effects on clumped isotope fractionation during inorganic calcite precipitation, ***Geochimica et Cosmochimica Acta***, 134, 120-136.
44. **Tripati, A.**, Sahany, S., Pittman, D.*, Eagle, R., Neelin, D., Mitchell, J., Beaufort, L., 2014, Modern and glacial tropical snowlines controlled by sea surface temperature and atmospheric mixing, ***Nature Geoscience***, 7, 205-209.
43. Loyd, S.*, Dickson, J.A.D., Scholle, P., **Tripati, A.**, 2013, Extensive, uplift-related and non-fault-controlled spar precipitation in the Permian Capitan Formation, ***Sedimentary Geology***, 298, 17-27.
42. Ferguson, J.E., Johnson, K.R., Santos, G., Meyer, L., **Tripati, A.**, 2013, Investigating $\delta^{13}C$ and $\Delta^{14}C$ within *Mytilus californianus* shells as proxies of upwelling intensity, ***Geochemistry, Geophysics, Geosystems***, doi:10.1002/ggge.20090, 6, 1856-1865.
41. Eagle, R., Eiler, J., **Tripati, A.**, Ries, J., Freitas, P., Hiebenthal, C., Wanamaker Jr., A., Taviani, M., Elliot, M., Richardson, C., Marenssi, S., Nakamura, K.*, Ramirez, P., Roy, K., 2013, The influence of temperature and seawater carbonate saturation state on ^{13}C-^{18}O bond ordering in bivalve mollusks, ***Biogeosciences***, 10, 4591-4606.
40. Hill, P.*, **Tripati, A**., Schauble, E., 2013, Theoretical constraints on the effects of pH, salinity, and temperature on clumped isotope signatures of dissolved inorganic carbon species and carbonate minerals, ***Geochimica et Cosmochimica Acta***, doi.org/10.1016/j.gca.2013.06.018, 125, 610-652.
39. Eagle, R., Risi, C., Mitchell, J., Neelin, D., Eiler, J., Seibt, U., Li., G., **Tripati, A.**, 2013, High regional climate sensitivity over continental China inferred from glacial-recent changes in temperature and the hydrologic cycle, ***Proceedings of the National Academy of Sciences,*** 110, 8813–8818.
38. Dawber, C.*, **Tripati, A.**, 2012b, Exploring the controls on element ratios in Middle Eocene samples of the benthic foraminifera *Oridorsalis umbonatus*, ***Climate of the Past***, doi:10.5194/cp-8-1957-2012.
37. Loyd S.*, Corsetti F., Eiler J., and **Tripati A.,** 2012, Determining the diagenetic conditions of concretion formation: Assessing temperatures and pore-waters using clumped isotopes, ***Journal of Sedimentary Research***, 82, 1006-1016.
36. Dawber, C.*, **Tripati, A**., 2012a, Relationship between bottom water carbonate saturation and X/Ca in core-top samples of the benthic foraminifera *Oridorsalis umbonatus*, ***Biogeosciences***, 9, 3029-3045.
35. Blard, P.-H., Sylvestre, F., **Tripati, A.**, Claude, C., Causse, C., Coudrain, A., Condom, T., Seidel, J.-L., Vimeux, F., Moreau, C., Dumoulin, J.-P., Lave, J., 2011, Lake highstands on the Altiplano (Tropical Andes) contemporaneous with Heinrich 1 and the Younger Dryas: new insights from ^{14}C, U-Th dating, and $\delta^{18}O$ of carbonates, ***Quaternary Science Reviews***, 30, 3973-3989.
34. **Tripati, A**., Eagle, R., Roberts, C.*, Li, G., 2011, A 20 million year long record of foraminiferal B/Ca ratios: Systematics and uncertainties in pCO_2 reconstructions, ***Geochimica et Cosmochimica Acta***, 75, 2582-2610.
33. Roberts, C.*, LeGrande, A., **Tripati, A.**, 2011, Sensitivity of seawater oxygen isotopes to climatic and tectonic boundary conditions in an early Paleogene simulation with GISS ModelE-R. ***Paleoceanography***, doi:10.1029/2010PA002025.
32. Eagle, R., Tutken, T., Martin, T., **Tripati, A.,** Fricke, H., Connely, M., Cifelli, R., Eiler, J., 2011, Dinosaur body temperatures determined from isotopic (^{13}C-^{18}O) ordering in fossil biominerals, ***Science***, 333, 443-445.
31. Csank, A., **Tripati, A.,** Patterson, W., Eagle, R., Rybczynski, N., Ballantyne, A., Eiler, J., 2011, Estimates of Arctic land surface temperatures during the Early Pliocene from two novel proxies, ***Earth and Planetary Science Letters***, 304, 291-299.
30. Dawber, C.*, **Tripati, A.,** 2011, Constraints on glaciation in the middle Eocene (46-37 Ma) from Ocean Drilling Program (ODP) Site 1209 in the tropical Pacific Ocean, ***Paleoceanography***, 26, doi:10.1029/2010PA002037.
29. Finnegan, S., Bergmann, K., Fischer, W., Jones, D., Fike, D., **Tripati, A.,** Hughes, N., Eiler, J.,

2011, Carbonate "clumped" isotopic constraints on the duration and magnitude of Late Ordovician-Early Silurian glaciation, ***Science***, 331, 903-906.

28. Dawber, C.*, **Tripati, A.,** Gale, A., MacNiocaill, C., Hesselbo, S., 2011, Glacioeustasy during the middle Eocene? Insights from the stratigraphy of the Hampshire Basin, UK, ***Palaeogeography, Palaeoclimatology, Palaeoecology,*** 300, 84-100.
27. Elderfield, H., Greaves, M., Barker, S., Hall, I**., Tripati, A.**, Ferretti, P., Booth, L., Daunt, C., 2010, A record of bottom water temperature and seawater $\delta^{18}O$ for the Southern Ocean over the past 440 kyr based on Mg/Ca of benthic foraminiferal *Uvigerina* spp., ***Quaternary Science Reviews***, doi:10.1016/j.quascirev.2009.07.013.
26. Torfstein, A., Winckler, G., **Tripati, A.**, 2010, Productivity feedback did not terminate the Paleocene-Eocene Thermal Maximum, ***Climate of the Past***, 6, 265-272.
25. Eagle, R., Schauble, E., **Tripati, A.,** Tutken, T., Hulbert, R., Eiler, J., 2010, Body temperature of modern and extinct vertebrates from ^{13}C-^{18}O bond abundances in bioapatite, ***Proceedings of the National Academy of Sciences,*** 107, 10377-10382.
24. **Tripati, A.**, Thiagarajan, N., Eagle, R., Gagnon, A., Bauch, H., Eiler, J., 2010, Apparent equilibrium ^{13}C-^{18}O isotope signatures and 'clumped isotope' thermometry in foraminifera and coccoliths, ***Geochimica et Cosmochimica Acta***, 74, 5697-5717.
23. Huntington, K., Eiler, J., Affek, H., Guo, W., Bonifacie, M., Yeung, L., Thiagarajan, N., Passey, B., **Tripati, A.**, Daeron, M., Came, R., 2009, Methods and limitations of 'clumped' CO_2 isotope (Δ_{47}) analysis by gas-source isotope-ratio mass spectrometry. ***Journal of Mass Spectrometr***y, doi:10.1002/jms.1614.
22. Spielhagen, R., **Tripati, A.**, 2009, Evidence for near-freezing temperatures and climate oscillations in the Arctic during the early Cenozoic, ***Paleogeography, Palaeoecology, Palaeoclimatology,*** 278, 48-56.
21. Roberts, C.*, LeGrande, A., **Tripati, A.**, 2009, Climate sensitivity to Arctic seaway restriction during the early Paleogene, ***Earth and Planetary Science*** Letters*,* 286, 576-585.
20. **Tripati, A.**, Sampson, D., Allmon, W., 2009, Possible evidence for a large decrease in seawater Sr/Ca ratios and strontium concentrations during the Cenozoic, ***Earth and Planetary Science Letters,*** 282, doi:10.1016/j.epsl.2009.03.020**.**
19. **Tripati, A.**, Roberts, C.*, Eagle, R., 2009, Coupling of CO_2 and ice sheet stability over major climate transitions of the last 20 million years, ***Science***, 326, 1394-1397.
18. Roberts, C.*, **Tripati, A.**, 2009, Modelled reconstructions of the oceanic carbonate system for different histories of atmospheric carbon dioxide during the last 20 Ma, ***Global Biogeochemical Cycles***, 23, doi: 10.1029/2008GB003310.
17. **Tripati, A.**, Eagle, R., Morton, A., Dowdeswell, J., Atkinson, K.*, Bahe, Y.*, Dawber, C.*, Khadun, E.*, Shaw, R.*, Shorttle, O.*, Thanabalasundaram, L.*, 2008, Evidence for Northern Hemisphere glaciation back to 44 Ma from ice-rafted debris in the Greenland Sea, ***Earth and Planetary Science Letters*****,** doi: 10.1016/j.epsl.2007.09.045.
16. Sime, N., De La Rocha, C., Tipper, E., **Tripati, A.**, Galy, A., Elderfield, H. and Bickle, M., 2007, Interpreting the calcium isotopic composition of seawater through the Neogene and Quaternary, ***Geochimica et Cosmochimica Acta***, 71, 3979-3989.
15. Paelike, H., Norris, R., Herrle, J., Wilson, P., Coxall, H., Lear, C., Shackleton, N., **Tripati A.**, and Wade, B., 2006, The heartbeat of the Oligocene climate system, ***Science,*** 314, 1894-1898**.**
14. **Tripati, A**., Elderfield, H., Booth, L., Zachos, J., and Ferretti, P., 2006, High-resolution benthic foraminiferal stable isotope stratigraphy across the Oligocene-Miocene boundary at Site 1218, ***ODP Leg 199 Scientific Results***.
13. **Tripati, A.** and Elderfield, H., 2005, Deep-Sea Temperature and Circulation Changes at the Paleocene-Eocene Thermal Maximum, ***Science***, 308(5729), 1894-1898.
12. **Tripati, A.,** Backman, J., Elderfield, H., and Ferretti, P., 2005, Eocene bipolar glaciation associated with global carbon cycle changes, ***Nature***, 436, 341-346. See also, accompanying News and Views piece by Lee Kump (333-334 of same issue).
11. Lyle, M., Olivarez Lyle, A., Backman, J. and **Tripati, A**., 2005, Biogenic sedimentation in the Eocene equatorial Pacific: The stuttering greenhouse and Eocene carbonate compensation depth, ***ODP Leg 199 Scientific Results***.

10. **Tripati, A.** and Elderfield, H., 2004, Abrupt hydrographic changes in the equatorial Pacific and subtropical Atlantic from foraminiferal Mg/Ca indicate greenhouse origins for the thermal maximum at the Paleocene-Eocene Boundary, ***Geochem., Geophys., Geosyst.***, 5(2), doi:10.1029/2003GC000631. (Cited in IPCC 2007 report).
9. **Tripati, A**., Delaney, M.L., Zachos, J.C., Anderson, L.D., Kelly, D.C., and Elderfield, H., 2003, Tropical Sea-Surface Temperature Reconstruction for the Early Paleogene Using Mg/Ca Ratios of Planktonic Foraminifera, ***Paleoceanography,*** 18(4), 1101, doi:10.1029/2003PA000937.
8. Nomura, R., Nishi, H., and Shipboard Science Party, 2003, Lithological changes across the Paleocene/Eocene boundary, ***J. Geol. Soc. Japan***, 108, 17-18.
7. Shipboard Science Party, 2003, Leg 199 investigates the "Greenhouse" Eocene in the tropical Pacific Ocean, ***JOIDES Journal***, 29(1), 6-10.
6. **Tripati, A.** and Zachos, J.C., 2002, Late Eocene Tropical Sea Surface Temperatures: A Perspective from Panama, ***Paleoceanography***, 17(3), p. 1032-1043, doi:10.1029/2000PA000605.
5. Shipboard Science Party, 2002, Leg 199 Initial Reports: Paleogene equatorial transect, ***ODP Leg 199 Initial Reports***.
4. Quintin, L.L., Faul, K.L., Lear, C., Graham, D., Peng, C., Murray, R. and Shipboard Science Party, 2002, Geochemical analysis of bulk marine sediment by inductively-coupled plasma-atomic emission spectroscopy onboard the JOIDES Resolution. ***ODP Leg 199 Initial Reports***.
3. **Tripati, A**., Zachos, J.C., Marincovich Jr., L., and Bice, K., 2001, Late Paleocene Arctic Coastal Climate as Inferred from Molluscan Stable and Radiogenic Isotope Ratios, ***Palaeogeog., Palaeoclimatol., Palaeoecol.,*** 170, 101-113.
2. **Tripati, A.** and Zachos, J.C., 2000, Paleocene and Eocene Coastal Temperatures, ***GFF***, 122, 171-172.
1. Paul, H., Zachos, J.C., Flower, B.P., and **Tripati, A**., 2000, Orbital Forcing of Climate Across the Oligocene-Miocene Boundary, ***Paleoceanography***, 5, 471-485.

EXHIBIT B

AWARD NOTICE

Award Date: September 16, 2019
Award No. (FAIN): 1936715
Proposal No.: 1936715
Managing Division Abbreviation: ICER

Gene D. Block
Chancellor
University of California, Los Angeles
10889 Wilshire Boulevard
Suite 700
Los Angeles, CA 90095-1406
DUNS ID: 092530369

Dear Dr. Block:

The National Science Foundation hereby awards a grant of $1,000,000 to University of California, Los Angeles for support of the project described in the proposal referenced above . This award is expected to total $1,000,000.

This project, entitled "RAISE: Bringing Together Diverse Perspectives on Water," is under the direction of Aradhna Tripati, shannon speed, Jessica R. Cattelino.

This award starts September 1 , 2019 and ends August 31, 2022.

This grant is awarded pursuant to the authority of the National Science Foundation Act of 1950, as amended (42 U.S.C. 1861-75) and is subject to Research Terms and Conditions (RTCs) dated March 14, 2017, and NSF Agency Specific Requirements, dated February 25, 2019, available at: https://www.nsf.gov/awards/managing/rtc.jsp.

This institution is a signatory to the Federal Demonstration Partnership (FDP) Phase VI Agreement which requires active institutional participation in new or ongoing FDP demonstrations and pilots..

This award is subject to the Federal Funding Accountability and Transparency Act (FFATA) award term entitled, Reporting Subawards and Executive Compensation, which has been incorporated into the NSF Terms and Conditions referenced above.

If the awardee has any questions related to the pre-populated data associated with this award in the FFATA Subaward Reporting System, such questions should be submitted to: FFATAReporting@nsf.gov or by phone to: (800) 673-6188.

Funds provided for participant support may not be diverted by the awardee to other categories of expense without the prior written approval of the cognizant NSF Program Officer. Since participant support cost is not a normal account classification, the awardee organization must be able to separately identify participant support costs. It is highly recommended that separate accounts, sub-accounts, sub-task, or sub-ledgers be established to accumulate these costs. The awardee should have written policies and procedures to segregate participant support costs.

Costs of entertainment, amusement, diversion and social activities, and any costs directly associated with such costs (such as meals, lodging, rentals, transportation and gratuities) are unallowable. When certain meals are an integral and necessary part of a conference or meeting (i.e., working meals where business is transacted), grant funds may be used for such meals. Grant funds may also be used to furnish a reasonable

amount of coffee or soft drinks for conference or meeting participants and attendees during coffee breaks.

No NSF funds may be spent on meals or coffee breaks for intramural meetings of an organization or any of its components, including, but not limited to, laboratories, departments and centers.

The attached budget indicates the amounts, by categories, on which NSF has based its support.

The indirect cost rate(s) for this award is/are :

Item Name	Indirect Cost Rate
56% of MTDC	56.0000%

These rates are at the time of award and are based upon the budget submitted to the NSF. It does not include any out-year adjustments. The NSF will not modify awards simply to correct indirect cost rates cited in the award notice. See the Proposal & Award Policies & Procedures Guide (PAPPG) Chapter X.A.3.a. for guidance on re-budgeting authority.

Please view the project reporting requirements for this award at the following web address [https://reporting.research.gov/fedAwardId/1936715].

The cognizant NSF program official for this grant is Brandon Jones, (703) 292-4713
The cognizant NSF grants official contact is Christine Castell, (703) 292-4803.

Sincerely,

Willie Powell
Grants and Agreements Officer

CFDA No. 47.050, Geosciences
awards@research.ucla.edu

ICER-1936715 000
SUMMARY PROPOSAL BUDGET

Person MOS	cal	acad	sumr	Funds granted By NSF
A. (9.00) Total Senior personnel	0.00	0.00	4.49	$96,855
B. Other Personnel				
1. (0.00) Post Doctoral associates	0.00	0.00	0.00	$0
2. (0.00) Other professionals	0.00	0.00	0.00	$0
3. (6.00) Graduate students				$99,768
4. (0.00) Secretarial-clerical				$0
5. (0.00) Undergraduate students				$0
6. (12.00) Other				$88,638
Total salaries and wages (A+B)				$285,261
C. Fringe benefits (if charged as direct cost)				$57,218
Total salaries wages and fringes (A+B+C)				$342,479
D. Total permanent equipment				$0

E. Travel	
1. Domestic	$55,350
2. International	$0
F. Total participant support costs	$234,199
G. Other direct costs	
1. Materials and supplies	$30,300
2. Publication costs/page charges	$0
3. Consultant services	$0
4. Computer (ADPE) services	$0
5. Subawards	$0
6. Other	$87,869
Total other direct costs	$118,169
H. Total direct costs (A through G)	$750,197
I. Total indirect costs	$249,803
(For information on the rate used, please refer to the award notice)	
J. Total direct and indirect costs (H+I)	$1,000,000
K. Fee	$0
L. Amount of this request (J) or (J+K)	$1,000,000
M. Cost sharing	$0

EXHIBIT C

NATIONAL SCIENCE FOUNDATION

Award Notice

Award Number (FAIN): 1936715
Managing Division Abbreviation: ICER **Amendment Number:** 001

AWARDEE INFORMATION

Award Recipient: University of California, Los Angeles
Awardee Address: 10889 Wilshire Boulevard Suite 700 Los Angeles, CA 900951406
Official Awardee Email Address:awards@research.ucla.edu
Unique Entity Identifier (DUNS ID): 092530369

AMENDMENT INFORMATION

Amendment Type: Supplement
Amendment Date: 07/20/2020
Amendment Number: 001
Proposal Number: 2031648
Amendment Description:

The purpose of this amendment is to:

- Add supplemental support to the award in the amount shown below in the Funding Information section .

Funds provided for participant support may not be diverted by the awardee to other categories of expense without the prior written approval of the cognizant NSF Program Officer. Since participant support cost is not a normal account classification, the awardee organization must be able to separately identify participant support costs. It is highly recommended that separate accounts, sub-accounts, sub-task, or sub-ledgers be established to accumulate these costs. The awardee should have written policies and procedures to segregate participant support costs.

Except as modified by this amendment, the award conditions remain unchanged.

AWARD INFORMATION

Award Number (FAIN): 1936715
Award Instrument: Standard Grant
Award Date: 09/16/2019
Award Period of Performance: Start Date: 09/01/2019 End Date: 08/31/2022
Project Title: RAISE: Bringing Together Diverse Perspectives on Water
Managing Division Abbreviation: ICER

Research and Development Award: Yes
Funding Opportunity: NSF 19-1 Proposal & Award Policies & Procedures Guide - PAPPG
CFDA Number and Name: 47.050 Geosciences

FUNDING INFORMATION

Amount Obligated by this Amendment: $199,999
Total Intended Award Amount: $1,000,000
Total Approved Cost Share or Matching Amount: $0
Total Amount Obligated to Date: $1,199,999

PROJECT PERSONNEL

Principal Investigator: Aradhna Tripati	**Email:** ripple@zephyr.ess.ucla.edu	**Institution:** University of California-Los Angeles
Co-Principal Investigator: Jessica R Cattelino	**Email:** jesscatt@anthro.ucla.edu	**Institution:** University of California-Los Angeles
Co-Principal Investigator: shannon speed	**Email:** sspeed@aisc.ucla.edu	**Institution:** University of California-Los Angeles

NSF CONTACT INFORMATION

Managing Grants Official (Primary Contact) **Name:** Angela A. Turner **Email:** aturner@nsf.gov	**Awarding Official** **Name:** Willie M. Powell **Email:** wpowell@nsf.gov	**Managing Program Officer** **Name:** Brandon Jones **Email:** mbjones@nsf.gov

GENERAL TERMS AND CONDITIONS

This is awarded pursuant to the authority of the National Science Foundation Act of 1950, as amended (42 U.S.C. 1861-75) and is subject to Research Terms and Conditions (RTCs) dated 03/14/2017, and NSF Agency Specific Requirements, dated 02/25/2019, available at https://www.nsf.gov/awards/managing/rtc.jsp.

This institution is a signatory to the Federal Demonstration Partnership (FDP) Phase VI Agreement which requires active institutional participation in new or ongoing FDP demonstrations and pilots.

BUDGET

A. Senior Personnel

Senior Personnel Count	0.00
Senior Personnel Calendar Months	0.00
Senior Personnel Academic Months	0.00
Senior Personnel Summer Months	0.00
Senior Personnel Amount	$0
B. Other Personnel	
Post Doctoral Scholars	
Post Doctoral Count	0.00
Post Doctoral Calendar Months	0.00
Post Doctoral Academic Months	0.00
Post Doctoral Summer Months	0.00
Post Doctoral Amount	$0
Other Professionals	
Other Professionals Count	0.00
Other Professionals Calendar Months	0.00
Other Professionals Academic Months	0.00
Other Professionals Summer Months	0.00
Other Professionals Amount	$0
Graduate Students	
Graduate Students Count	0.00
Graduate Students Amount	$0
Undergraduate Students	
Undergraduate Students Count	0.00
Undergraduate Students Amount	$0
Secretarial - Clerical	
Secretarial - Clerical Count	0.00
Secretarial - Clerical Amount	$0
Other	
Other Count	1.00
Other Amount	$77,044
Total Salaries and Wages (A+B)	$77,044
C. Fringe Benefits	$38,830
Total Salaries, Wages, Fringe Benefits (A + B + C)	$115,874
D. Equipment	$0
E. Travel	
Domestic	$0
International	$0

F. Participant Support Costs	
Participant Support Costs Stipends	$18,000
Participant Support Costs Travel	$0
Participant Support Costs Subsistence	$0
Participant Support Costs Other	$0
Total Number of Participants	8.00
Total Participant Costs (F)	$18,000
G. Other Direct Costs	
Materials Supplies	$0
Publication Costs	$0
Consultant Services	$0
Computer Services	$0
Subawards	$0
Other	$792
Total Other Direct Costs (G)	$792
H. Total Direct Costs (A Through G)	**$134,666**
I. Indirect Costs*	**$65,333**
J. Total Direct and Indirect Costs (H + I)	$199,999
K. Fees	$0
L. Total Amount of Request (J) OR (J + K)	**$199,999**
M. Cost Sharing Proposed Level	$0

EXHIBIT D

NATIONAL SCIENCE FOUNDATION

Award Notice

Award Number (FAIN): 1936715
Managing Division Abbreviation: ICER **Amendment Number:** 002

AWARDEE INFORMATION

Award Recipient: University of California, Los Angeles
Awardee Address: 10889 Wilshire Boulevard Suite 700 Los Angeles, CA 90095-1406
Official Awardee Email Address: awards@research.ucla.edu
Unique Entity Identifier (DUNS ID): 092530369

AMENDMENT INFORMATION

Amendment Type: Supplement
Amendment Date: 08/16/2021
Amendment Number: 002
Proposal Number: 2141981
Amendment Description:

The purpose of this amendment is to:

- Add supplemental support to the award in the amount shown below in the Funding Information section .

Except as modified by this amendment, the award conditions remain unchanged.

AWARD INFORMATION

Award Number (FAIN): 1936715
Award Instrument: Standard Grant
Award Date: 09/16/2019
Award Period of Performance: Start Date: 09/01/2019 End Date: 08/31/2022
Project Title: RAISE: Bringing Together Diverse Perspectives on Water
Managing Division Abbreviation: ICER
Research and Development Award: Yes
Funding Opportunity: NSF 19-1 Proposal & Award Policies & Procedures Guide - PAPPG
CFDA Number and Name: 47.050 Geosciences

FUNDING INFORMATION

Amount Obligated by this Amendment: $99,999
Total Intended Award Amount: $1,000,000
Total Approved Cost Share or Matching Amount: $0
Total Amount Obligated to Date: $1,299,998

PROJECT PERSONNEL

Principal Investigator: Aradhna Tripati	**Email:** ripple@zephyr.ess.ucla.edu	**Institution:** University of California-Los Angeles
Co-Principal Investigator: Jessica R Cattelino	**Email:** jesscatt@anthro.ucla.edu	**Institution:** University of California-Los Angeles
Co-Principal Investigator: shannon speed	**Email:** sspeed@aisc.ucla.edu	**Institution:** University of California-Los Angeles

NSF CONTACT INFORMATION

Managing Grants Official (Primary Contact) **Name:** Angela A. Turner **Email:** aturner@nsf.gov	**Awarding Official** **Name:** Willie M. Powell **Email:** wpowell@nsf.gov	**Managing Program Officer** **Name:** Brandon Jones **Email:** mbjones@nsf.gov

GENERAL TERMS AND CONDITIONS

This is awarded pursuant to the authority of the National Science Foundation Act of 1950, as amended (42 U.S.C. 1861-75) and is subject to Research Terms and Conditions (RTCs) dated 11/12/2020, and NSF Agency Specific Requirements, dated 11/12/2020, available at https://www.nsf.gov/awards/managing/rtc.jsp.

This institution is a signatory to the Federal Demonstration Partnership (FDP) Phase VI Agreement which requires active institutional participation in new or ongoing FDP demonstrations and pilots.

BUDGET

A. Senior Personnel	
Senior Personnel Count	0.00
Senior Personnel Calendar Months	0.00
Senior Personnel Academic Months	0.00
Senior Personnel Summer Months	0.00

Senior Personnel Amount	$0
B. Other Personnel	
Post Doctoral Scholars	
Post Doctoral Count	1.00
Post Doctoral Calendar Months	7.50
Post Doctoral Academic Months	0.00
Post Doctoral Summer Months	0.00
Post Doctoral Amount	$43,750
Other Professionals	
Other Professionals Count	1.00
Other Professionals Calendar Months	1.00
Other Professionals Academic Months	0.00
Other Professionals Summer Months	0.00
Other Professionals Amount	$8,051
Graduate Students	
Graduate Students Count	0.00
Graduate Students Amount	$0
Undergraduate Students	
Undergraduate Students Count	0.00
Undergraduate Students Amount	$0
Secretarial - Clerical	
Secretarial - Clerical Count	0.00
Secretarial - Clerical Amount	$0
Other	
Other Count	0.00
Other Amount	$0
Total Salaries and Wages (A+B)	$51,801
C. Fringe Benefits	$10,778
Total Salaries, Wages, Fringe Benefits (A + B + C)	$62,579
D. Equipment	$0
E. Travel	
Domestic	$0
International	$0
F. Participant Support Costs	
Participant Support Costs Stipends	$0
Participant Support Costs Travel	$0
Participant Support Costs Subsistence	$0
Participant Support Costs Other	$0
Total Number of Participants	0.00

Total Participant Costs (F)	$0
G. Other Direct Costs	
Materials Supplies	$0
Publication Costs	$0
Consultant Services	$0
Computer Services	$0
Subawards	$0
Other	$1,523
Total Other Direct Costs (G)	$1,523
H. Total Direct Costs (A Through G)	**$64,102**
I. Indirect Costs*	**$35,897**
J. Total Direct and Indirect Costs (H + I)	$99,999
K. Fees	$0
L. Total Amount of Request (J) OR (J + K)	**$99,999**
M. Cost Sharing Proposed Level	$0

EXHIBIT E

NATIONAL SCIENCE FOUNDATION

Award Notice

Award Number (FAIN): 1936715

Managing Division Abbreviation: RISE

Amendment Number: 003

RECIPIENT INFORMATION

Recipient (Legal Business Name): UNIVERSITY OF CALIFORNIA, LOS ANGELES
Recipient Address: 10889 WILSHIRE BLVD STE 700 LOS ANGELES, CA 90024-4200
Official Recipient Email Address: awards@research.ucla.edu
Unique Entity Identifier (UEI): RN64EPNH8JC6

AMENDMENT INFORMATION

Amendment Type: No Cost Extensions
Amendment Date: 08/09/2024
Amendment Number: 003
Proposal Number: Not Applicable
Amendment Description:

The purpose of this amendment is to extend the end date from 08/31/2024 to 08/31/2025 in accordance with the NSF Approved No-Cost Extension request submitted on 08/07/2024 without additional funds to allow for the completion of the agreed-to level of effort.

Except as modified by this amendment, the award conditions remain unchanged.

PROJECT PERSONNEL

Principal Investigator: Aradhna Tripati	**Email:** ripple@zephyr.ess.ucla.edu	**Organization:** UNIVERSITY OF CALIFORNIA, LOS ANGELES
co-Principal Investigator: Jessica R Cattelino	**Email:** jesscatt@anthro.ucla.edu	**Organization:** UNIVERSITY OF CALIFORNIA, LOS ANGELES

co-Principal Investigator: shannon speed	**Email:** sspeed@aisc.ucla.edu	**Organization:** UNIVERSITY OF CALIFORNIA, LOS ANGELES

NSF CONTACT INFORMATION

Managing Grants Official (Primary Contact) **Name:** Angela A. Turner **Email:** aturner@nsf.gov **Phone:** (703) 292-7524	**Awarding Official** **Name:** Willie M. Powell **Email:** wpowell@nsf.gov	**Managing Program Officer** **Name:** Brandon Jones **Email:** mbjones@nsf.gov **Phone:** (703) 292-4713

EXHIBIT F

From: **UCLA Research Admin** <DoNotReply@research.ucla.edu>
Date: Fri, Aug 1, 2025 at 9:24 PM
Subject: Grant Suspension Notice - Stop Work Order [PATS 20194592]
To: <atripati@ucla.edu>
Cc: <kiana.khaki@research.ucla.edu>, <mrathjen@epss.ucla.edu>, <PATSRecords@research.ucla.edu>

Stop Work Notice

Award #: 1936715
Title: RAISE: Bringing Together Diverse Perspectives on Water
PATS #: 20194592
Fund #(s): 23043

Professor Tripati,

UCLA has received a suspension notice from NATIONAL SCIENCE FOUNDATION (NSF) for the above referenced project.

This email is to notify you to ***immediately stop incurring costs/expenditures on the grant(s) referenced above effective July 31, 2025***.

If your grant includes active subawards, OCGA will be writing to the subawardee's administrative contact with formal notice of the subaward suspension and the requirement to stop immediately all expenditures against the subaward. You may also want to separately reach out to your collaborator to provide additional context.

UCLA is required to submit to the sponsor, within 30 days of this suspension, a financial report of expenditures through July 31, 2025. OCGA will request that the subawardee submit to you, within 15 days of the notice, an invoice for expenses incurred to date so that we can include those expenses in our report to the sponsor. Extramural Fund Management (EFM) will seek the support of your fund manager to prepare a complete and accurate financial report of expenses incurred through July 31, 2025.

We are saddened that this has happened and echo the sentiments expressed in the recent communications from Chanceller Frenk and Vice Chancellor for Research Wakimoto. Campus leadership is actively engaged in working to resolve these issues. Updates will be shared as they become available. For questions regarding the suspension, please contact awards@research.ucla.edu or reach out to me directly. For financial or reimbursement-related inquiries, reach out to your EFM contact.

ACTION REQUIRED

Please:

1. Forward any communications you may receive from the federal sponsor related to this suspension to OCGA at awards@research.ucla.edu.
2. Work with your fund manager or financial staff to ensure all expenditures are reported and subaward invoices are approved.

We understand this is a stressful time, and we appreciate your dedication to research excellence at UCLA.

Tracey Fraser
Senior Director
UCLA Office of Contract & Grant Administration
10889 Wilshire Boulevard, Suite 700
Los Angeles, CA 90095-1406
T: (310) 825-0671 | **E:** tracey.fraser@research.ucla.edu
https://ocga.research.ucla.edu/

EXHIBIT G

NATIONAL SCIENCE FOUNDATION

Award Notice

Award Number (FAIN): 2232606
Managing Division Abbreviation: RISE **Amendment Number:** 000

RECIPIENT INFORMATION

Recipient (Legal Business Name): UNIVERSITY OF CALIFORNIA, LOS ANGELES
Recipient Address: 10889 WILSHIRE BLVD STE 700 LOS ANGELES, CA 90024-4201
Official Recipient Email Address: awards@research.ucla.edu
Unique Entity Identifier (UEI): RN64EPNH8JC6

AMENDMENT INFORMATION

Amendment Type: New Project
Amendment Date: 06/05/2023
Amendment Number: 000
Proposal Number: 2232606
Amendment Description:

The National Science Foundation hereby awards a Continuing Grant for support of the project described in the proposal referenced above as modified by revised budget dated 03/29/2023.

Funds provided for participant support may not be diverted by the awardee to other categories of expense without the prior written approval of the cognizant NSF Program Officer. Since participant support cost is not a normal account classification, the awardee organization must be able to separately identify participant support costs. It is highly recommended that separate accounts, sub-accounts, sub-task, or sub-ledgers be established to accumulate these costs. The awardee should have written policies and procedures to segregate participant support costs.

Incentive payments or gifts to participants must be made in accordance with written institutional policies and procedures and supported by auditable documentation. The allowability of these costs will ultimately be based on the awardee institution's ability to adequately demonstrate that the incentives have been disbursed in accordance with its policies and procedures.

Costs of entertainment, amusement, diversion and social activities, and any costs directly associated with such activities (such as meals, lodging, rentals, transportation and gratuities) are unallowable. When certain meals are an integral and necessary part of a conference or meeting (i.e., working meals where business is transacted), grant funds may be used for such meals. Grant funds may also be used to furnish a reasonable amount of coffee or soft drinks for conference or meeting participants and attendees during coffee breaks.

No NSF funds may be spent on meals or coffee breaks for intramural meetings of an organization or any of its components, including, but not limited to, laboratories, departments and centers.

AWARD INFORMATION

Award Number (FAIN): 2232606
Award Instrument: Continuing Grant
Award Date: 06/05/2023
Award Period of Performance: Start Date: 06/01/2023 End Date: 05/31/2028
Project Title: Collaborative Research: Supporting Leadership in Diversity, Professional Development, and Geoscience Capacity Building for Veterans in STEM: The VRC-CDLS Veterans in STEM Program
Managing Division Abbreviation: RISE
Research and Development Award: Yes
Funding Opportunity: PD 21-178Y Geoscience Opportunities for Leadership in Diversity
Assistance Listing Number(s) and Name(s): 47.050 Geosciences (Predominant source of funding for SEFA reporting)

FUNDING INFORMATION

Amount Obligated by this Amendment: $1,096,856
Total Intended Award Amount: $1,871,753
Total Approved Cost Share or Matching Amount: $0
Total Amount Obligated to Date: $1,096,856
Expenditure Limitation: Not Applicable

Contingent on the availability of funds and scientific progress of the project, NSF expects to continue support at approximately the following level:

Fiscal Year	Increment Amount
2024	$774,897

PROJECT PERSONNEL

Principal Investigator:	Email:	Organization:
Aradhna Tripati	ripple@zephyr.ess.ucla.edu	UNIVERSITY OF CALIFORNIA, LOS ANGELES

COLLABORATIVE INFORMATION

Proposal ID	Lead	PI Name	Organization
2232606	Y	Aradhna Tripati	University of California, Los Angeles
2232607	N	Djuradj Babic	East Los Angeles College

NSF CONTACT INFORMATION

Managing Grants Official (Primary Contact)
Name: Angela A. Turner
Email: aturner@nsf.gov
Phone: (703) 292-7524

Awarding Official
Name: Willie M. Powell
Email: wpowell@nsf.gov

Managing Program Officer
Name: Brandon Jones
Email: mbjones@nsf.gov
Phone: (703) 292-4713

GENERAL TERMS AND CONDITIONS

This is awarded pursuant to the authority of the National Science Foundation Act of 1950, as amended (42 U.S.C. 1861-75) and is subject to Research Terms and Conditions (RTCs) dated 11/12/2020, and NSF Agency Specific Requirements, dated 01/30/2023, available at https://www.nsf.gov/awards/managing/rtc.jsp.

This institution is a signatory to the Federal Demonstration Partnership (FDP) Phase VI Agreement which requires active institutional participation in new or ongoing FDP demonstrations and pilots.

BUDGET

A. Senior Personnel	
Senior Personnel Count	3.00
Senior Personnel Calendar Months	3.00
Senior Personnel Academic Months	0.00
Senior Personnel Summer Months	0.00
Senior Personnel Amount	$81,189
B. Other Personnel	
Post Doctoral Scholars	
Post Doctoral Count	3.00
Post Doctoral Calendar Months	3.00
Post Doctoral Academic Months	0.00
Post Doctoral Summer Months	0.00
Post Doctoral Amount	$18,545
Other Professionals	
Other Professionals Count	9.00
Other Professionals Calendar	40.50

Months	
Other Professionals Academic Months	0.00
Other Professionals Summer Months	0.00
Other Professionals Amount	$278,182
Graduate Students	
Graduate Students Count	0.00
Graduate Students Amount	$0
Undergraduate Students	
Undergraduate Students Count	0.00
Undergraduate Students Amount	$0
Secretarial - Clerical	
Secretarial - Clerical Count	0.00
Secretarial - Clerical Amount	$0
Other	
Other Count	0.00
Other Amount	$0
Total Salaries and Wages (A+B)	$377,916
C. Fringe Benefits	$147,175
Total Salaries, Wages, Fringe Benefits (A + B + C)	$525,091
D. Equipment	$0
E. Travel	
Domestic	$750
International	$0
F. Participant Support Costs	
Participant Support Costs Stipends	$213,750
Participant Support Costs Travel	$6,000
Participant Support Costs Subsistence	$0
Participant Support Costs Other	$6,000
Total Number of Participants	108.00
Total Participant Costs (F)	$225,750
G. Other Direct Costs	
Materials Supplies	$3,000
Publication Costs	$750
Consultant Services	$0
Computer Services	$0
Subawards	$0
Other	$42,026

Total Other Direct Costs (G)	$45,776
H. Total Direct Costs (A Through G)	**$797,367**
I. Indirect Costs*	**$299,489**
J. Total Direct and Indirect Costs (H + I)	$1,096,856
K. Fees	$0
L. Total Amount of Request (J) OR (J + K)	**$1,096,856**
M. Cost Sharing Proposed Level	$0

*Indirect Cost Rates

Item Name	Indirect Cost Rate
MTDC	56.0000%

These rates are at the time of award and are based upon the budget submitted to the NSF. It does not include any out-year adjustments. The NSF will not modify awards simply to correct indirect cost rates cited in the award notice. See the Proposal & Award Policies & Procedures Guide (PAPPG) Chapter X.A.3.a. for guidance on re-budgeting authority.

EXHIBIT H

From: **UCLA Research Admin** <DoNotReply@research.ucla.edu>
Date: Fri, Aug 1, 2025 at 9:26 PM
Subject: Grant Suspension Notice - Stop Work Order [PATS 20225325]
To: <atripati@ucla.edu>
Cc: <jinger.snyder@research.ucla.edu>, <PATSRecords@research.ucla.edu>, <vdelarosa@ioes.ucla.edu>, <vfuentes@research.ucla.edu>

Stop Work Notice

Award #: 2232606
Title: Collaborative Research: Supporting Leadership in Diversity, Professional Development, and Geoscience Capacity Building for Veterans in STEM
PATS #: 20225325
Fund #(s): 22200

Professor Tripati,

UCLA has received a suspension notice from NATIONAL SCIENCE FOUNDATION (NSF) for the above referenced project.

This email is to notify you to ***immediately stop incurring costs/expenditures on the grant(s) referenced above effective July 31, 2025***.

If your grant includes active subawards, OCGA will be writing to the subawardee's administrative contact with formal notice of the subaward suspension and the requirement to stop immediately all expenditures against the subaward. You may also want to separately reach out to your collaborator to provide additional context.

UCLA is required to submit to the sponsor, within 30 days of this suspension, a financial report of expenditures through July 31, 2025. OCGA will request that the subawardee submit to you, within 15 days of the notice, an invoice for expenses incurred to date so that we can include those expenses in our report to the sponsor. Extramural Fund Management (EFM) will seek the support of your fund manager to prepare a complete and accurate financial report of expenses incurred through July 31, 2025.

We are saddened that this has happened and echo the sentiments expressed in the recent communications from Chanceller Frenk and Vice Chancellor for Research Wakimoto. Campus leadership is actively engaged in working to resolve these issues. Updates will be shared as they become available. For questions regarding the suspension, please contact awards@research.ucla.edu or reach out to me directly. For financial or reimbursement-related inquiries, reach out to your EFM contact.

ACTION REQUIRED

Please:

1. Forward any communications you may receive from the federal sponsor related to this suspension to OCGA at awards@research.ucla.edu.
2. Work with your fund manager or financial staff to ensure all expenditures are reported and subaward invoices are approved.

We understand this is a stressful time, and we appreciate your dedication to research excellence at UCLA.

Tracey Fraser
Senior Director
UCLA Office of Contract & Grant Administration
10889 Wilshire Boulevard, Suite 700
Los Angeles, CA 90095-1406
T: (310) 825-0671 | **E:** tracey.fraser@research.ucla.edu
https://ocga.research.ucla.edu/

Other Answers

3:25-cv-04737-RFL Thakur et al v. Trump et al

ADRMOP,APPEAL

U.S. District Court

California Northern District

Notice of Electronic Filing

The following transaction was entered by Schoenberg, Anthony on 8/11/2025 at 9:39 AM and filed on 8/11/2025

Case Name: Thakur et al v. Trump et al
Case Number: 3:25-cv-04737-RFL
Filer: Neeta Thakur
Ken Alex
Eli Berman
Susan Handy
Nell Green Nylen
Robert Hirst
Christine Philliou
Jedda Foreman
Document Number: 88

Docket Text:
Response to Order to Show Cause [81] Order to Show Cause, by Neeta Thakur, Ken Alex, Eli Berman, Susan Handy, Nell Green Nylen, Robert Hirst, Christine Philliou, Jedda Foreman. (Attachments: # (1) Declaration Of Dylan M. Silva In Support Of Plaintiffs Response To Order To Show Cause, # (2) Declaration Of Professor Karen McKinnon, # (3) Declaration Of Professor Aradhna Tripati)(Schoenberg, Anthony) (Filed on 8/11/2025)

3:25-cv-04737-RFL Notice has been electronically mailed to:

Annie Michael Wanless awanless@lchb.com

Anthony Paul Schoenberg tschoenberg@fbm.com, abrown@fbm.com, calendar@fbm.com, svillalobos@fbm.com

Claudia Polsky cpolsky@law.berkeley.edu

Donald Evan Sobelman dsobelman@fbm.com, calendar@fbm.com

Dylan Silva dsilva@cov.com

Elizabeth Joan Cabraser ecabraser@lchb.com, elizabeth-cabraser-1441@ecf.pacerpro.com

Erwin Chemerinsky echemerinsky@berkeley.edu

Jason Altabet jason.k.altabet2@usdoj.gov

Katherine Balkoski kbalkoski@fbm.com

Kathryn Barragan kathryn.e.barragan@usdoj.gov

Kevin R. Budner kbudner@lchb.com, kevin-budner-2411@ecf.pacerpro.com

Kyle Andrew McLorg kmclorg@fbm.com, DCalendar@fbm.com, svillalobos@fbm.com

Linda S. Gilleran lgilleran@fbm.com, calendar@fbm.com, dkelly@fbm.com, jlarson@fbm.com

Michael Velchik michael.velchik@usdoj.gov

Nabila Abdallah nabdallah@lchb.com

Richard M. Heimann rheimann@lchb.com

3:25-cv-04737-RFL Please see Local Rule 5-5; Notice has NOT been electronically mailed to:

The following document(s) are associated with this transaction:

Document description: Main Document
Original filename:C:\fakepath\2025-08-11 Plaintiffs Response to Order to Show Cause.pdf
Electronic document Stamp:
[STAMP CANDStamp_ID=977336130 [Date=8/11/2025] [FileNumber=22675594-0]
[190ab12250d443aaa40103d67aa16efd85a2f66cb485e729fb4ad27b53457e41ea84
8389ed09cc7d5ba1e5eb9d1234f58c6a376aab359b7767304da58c82a187]]
Document description: Declaration Of Dylan M. Silva In Support Of Plaintiffs Response To Order To Show Cause
Original filename:C:\fakepath\2025-08-11 Declaration of Dylan Silva in Response to Order to Show Cause.pdf
Electronic document Stamp:
[STAMP CANDStamp_ID=977336130 [Date=8/11/2025] [FileNumber=22675594-1]
[12aec7bc06103786fd293d5f6d99b172cd7a6d1bc1fff25de86e39f5428046e1f36d
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Document description: Declaration Of Professor Karen McKinnon
Original filename:C:\fakepath\2025-08-10 Declaration of Karen McKinnon.pdf
Electronic document Stamp:
[STAMP CANDStamp_ID=977336130 [Date=8/11/2025] [FileNumber=22675594-2]
[850e255965c86e3ffdbe309d467c9bf919aa0303c39044b918790cca15ff700e2999
8d370f9459169cc234899ba66d421c4b34ee5ff1b89c82682b3f362a78ed]]
Document description: Declaration Of Professor Aradhna Tripati
Original filename:C:\fakepath\2025-08-11 Declaration of Aradhna Tripati.pdf
Electronic document Stamp:
[STAMP CANDStamp_ID=977336130 [Date=8/11/2025] [FileNumber=22675594-3]
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