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**UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA**

AMERICAN ASSOCIATION OF
UNIVERSITY PROFESSORS, et al.,

Plaintiffs,

v.

DONALD J. TRUMP, in his official capacity
as President of the United States, et al.,

Defendants.

Case No. 3:25-cv-07864-RFL

**DECLARATION OF MARCUS ROPER IN
SUPPORT OF PLAINTIFFS' MOTION
FOR PRELIMINARY INJUNCTION**

1 I, Marcus Roper, declare as follows:

2 1. I am a Professor of Mathematics at the University of California, Los Angeles (“UCLA”).

3 2. I am over the age of 18 and competent to testify as to the matters set forth in this affidavit
4 based on my personal knowledge.

5 3. I am a member of the UCLA Faculty Association. I submit this declaration in support of
6 Plaintiffs’ Motion for Preliminary Injunction in the above-captioned case.

7 4. I have been a professor at UCLA since 2011. In 2007, I received my PhD in Applied
8 Math from the School of Engineering and Applied Sciences at Harvard University.

9 5. My research focuses on developing mathematical models for problems coming from
10 physics and biology. I am particularly interested in (1) fungal mycelia, (2) the microvascular system and
11 (3) design and optimization of inertial microfluidic devices. To advance my work, I manage a group of
12 post doctorate, graduate, and undergraduate researchers. The projects that my group works on are usually
13 experimentally inspired. Our goal is both to develop new mathematical methods and to gain a better
14 understanding of the world around us.

15 6. Recently, my team has focused on the development of new asymptotic results, which will
16 in the near future be used to accelerate simulations of particle interactions and trajectories in complex
17 channel geometries, and allow predictive device design. My collaborators and I have also used
18 transformed *Neurospora crassa* heterokarya, in which different populations of nuclei can be
19 distinguished using nuclear labels, to show how complex and constant flows of genetic material through
20 the colony enable growing fungi to keep populations of genetically different nuclei in stable, well-mixed
21 proportions. And my colleagues and I have been using experiments, theory and simulations to understand
22 how fungal fruiting bodies are adapted to enhance spore dispersal with the long-term goal of determining
23 why some species spread while others do not.

24 7. My work has been recognized in media outlets and publications, including *The New York*
25 *Times*, *The Guardian*, *The Telegraph*, *Nature*, *Scientific American*, *Inside Science*, and *Wired*.

26 8. My research has been supported by significant National Science Foundation (“NSF”)
27 grants. For example, I received an NSF Career Award in 2014 for my research on mathematical modeling
28 and physical experiments to study the dispersal and growth of fungi, and to predict how fungi will

1 respond to our changing Earth.

2 9. Based on prior experience with submitting NSF grants, I know that grant proposals are
3 initially reviewed by a scientific panel and a Program Officer. After evaluating the proposal and
4 considering the panel's review, the Program Officer makes a recommendation to the Division Director
5 on which grants to approve for funding. If the Division Director accepts the recommendation, the grant
6 application status will change from "pending" to "recommended" on the researcher's Research.gov
7 portal. Once the Division Director accepts the recommendation, the grant recommendation is sent to the
8 Division of Grant Administration ("DGA") at NSF, which then issues the award to the researcher's
9 institution. The Program Officer may also contact the researcher after their recommendation to notify
10 them of the decision and to discuss any outstanding requests for reports, filings, and public abstract
11 drafts. Generally, once a Program Officer has recommended funding, it is almost always the case that
12 the Division Director will concur and that DGA will issue the award to the researcher's institution.

13 10. On December 10, 2024, I submitted a proposal to NSF's Division of Physics for a three-
14 year grant starting in Summer 2025 and ending in Summer 2028. The grant was submitted jointly with
15 a grant submitted by a professor at Technical University of Munich ("TU Munich") to the Deutsche
16 Forschungsgemeinschaft ("DFG"), the central self-governing research funding organization in Germany.
17 In collaboration with my German colleagues, the project was designed to analyze the ways in which
18 slime molds build networks and develop nutrition systems. In slime mold, information is moved around
19 the organism through fluid flows, so tracking fluid movements can show how decisions are made and
20 how molds communicate with each other. Slime molds have become important for understanding how
21 entities without central neural systems can develop and communicate information and intelligence, so
22 by analyzing slime mold, we can advance and inform physics and life science research. The proposal
23 also included the development of an outreach program to promote applied mathematics in communities
24 that are not connected with universities. Specifically, the project would have included the development
25 of lesson plans for elementary school children to help them learn about algorithms through experiments
26 with slime mold (e.g. placing slime molds into mazes for them to solve).

27 11. On March 3, 2025, I submitted a separate proposal to NSF's Division of Mathematical
28 Sciences for a three-year grant starting in Summer 2025 and ending in Summer 2028. The proposal

1 centered around a collaborative project with Dr. Yuhua Zhang, a Professor of Ophthalmology at Doheny
2 Eye Institute at UCLA. The project focused on diabetic retinopathy, a condition associated with Type II
3 diabetes in which vessels in the back of the eye either leak fluid and swell or grow on the retina's surface.
4 Diabetic retinopathy can result in vision loss. My co-principal investigator has developed "adaptive
5 optics" technology to film the back of the eye, to see where the vessels are, and analyze the vessel shape
6 in patients with the condition. The technology can allow the user to see blood flow in large vessels, not
7 the smaller vessels in the back of the eye. The proposal was to both fund experimental work with the
8 technology and use mapping methodology to model blood flow in the unseen vessels. The project would
9 have also fostered collaboration with researchers to develop curriculum lesson plans for students at local
10 schools to promote applied mathematics. For example, our project would have helped students better
11 understand algebra by applying algebra to analyze eye health.

12 12. The budget for the slime mold proposal was \$396,095.00, not including the funds from
13 the German agency that would support the research conducted in Germany. The budget for the diabetic
14 retinopathy proposal was \$600,000.

15 13. On July 22, I spoke with NSF Program Director Angel Garcia over Zoom. On our call
16 and later confirmed over email, he told me that he would recommend my slime mold proposal for
17 funding. A true and correct copy of this email is attached hereto as **Exhibit 1**.

18 14. On July 23, I received an email from NSF Program Director Dr. Vu Dinh stating that he
19 would recommend my diabetic retinopathy proposal for a three-year award of \$300,000 with a start date
20 of September 1, 2025. In the email, Dinh congratulated me and stated that "as I am sure you know,
21 competition for funds at NSF is extremely keen, and the success of your proposal reflects the high regard
22 your peers have for your work." A true and correct copy of this email is included in the email thread
23 attached hereto as **Exhibit 2**.

24 15. On July 28 and 29, I submitted the necessary reports and public abstracts that Garcia
25 required before he could submit the award recommendation for the slime mold proposal by the deadline
26 of August 4. I notified him of my submissions and sent the public abstract over email. A true and correct
27 copy of the email thread with these communications is attached hereto as **Exhibit 3**.

28 16. On July 31 at 12:55 AM, I submitted the public abstract for the diabetic retinopathy

1 proposal via email to Dinh and Dr. Zhilan Feng, a Program Director with the Mathematical Biology team
2 at NSF. In this email, I also notified Dinh and Feng that I had submitted the required Current and Pending
3 Support report and proof of Institutional Review Board approval. A true and correct copy of this email
4 is included in the email thread attached hereto as **Exhibit 2.**

5 17. On July 31 at 8:19 AM, I received a reply to my July 31 email from Feng requesting that
6 I “make sure that the budget [for the diabetic retinopathy proposal] is submitted asap as it takes some
7 time for the revised budget to show up in the system and we must get all documents ready and submit
8 the recommendation today!” On the same day, I received another email from Feng that said “New
9 development: We have been told that DGA [the Division of Grant Administration at NSF] is holding off
10 issuing new awards to UCLA. So, I am not allowed to put forward this award recommendation until
11 further notice. Sorry about that. I will keep all documents and get the recommendation ready for
12 submission when it is allowed.” I received notice of DGA’s actions before it became public on or about
13 July 31 that UCLA grants were frozen. True and correct copies of these two emails are included in the
14 email thread attached hereto as **Exhibit 2.**

15 18. On August 5 at 5:47 AM, I received an email from Garcia stating that “[u]nfortunately,
16 we were unable [to] complete the recommendation of your project before the deadline of August 5th.
17 Program Directors were instructed not to make additional awards to UCLA until issues with the Justice
18 Department have been resolved. I apologize for this inconvenience.” A true and correct copy of this
19 email has been attached hereto as **Exhibit 4.**

20 19. On August 13, I received an email from Garcia stating that the “award recommendation
21 for your proposal has been ‘concurred’ by the Physics Division Director. It now goes to the Division of
22 Grants Administration (DGA) who [is] the only entity at NSF authorized to make an award. Under
23 normal circumstances, it takes about 1 month for DGA to complete their tasks. Let’s hope it goes
24 through!” A true and correct copy of this email has been attached hereto as **Exhibit 5.**

25 20. On August 15 at 12:58 pm, I sent an email to Dinh and Feng after I received notice from
26 UCLA administrators that due to a recent court ruling in the *Thakur v. Trump* lawsuit, UCLA faculty
27 were eligible to receive NSF grants. In my email, I stated that “[a]ccording to UCLA research admin,
28 the recent court ruling means that UCLA faculty are once again eligible to receive NSF grants. I don't

1 know whether that makes it possible for my proposal to be recommended. And there may be other
2 considerations and deadlines, so I don't want this email to seem pressuring in anyway on you to
3 recommend it. In any case, I am grateful to you and to Lisa for your continued advocacy for math biology
4 during these challenging times.” A true and correct copy of this email is included in the email thread
5 attached hereto as **Exhibit 2**.

6 21. On August 15, I received a reply from Feng stating that “[u]nfortunately, the latest
7 instruction we received is no recommendations for new awards to UCLA. Sorry about that.” A true and
8 correct copy of this email is included in the email thread attached hereto as **Exhibit 2**.

9 22. My two grants have been in purgatory since mid-August 2025. I have not heard from
10 either Feng or Garcia about whether my grants have been issued or whether they will move forward in
11 the authorization process.

12 23. NSF’s actions have harmed me, my graduate students, and my post doctorate researchers.
13 We cannot advance either project because of the frozen funding. In particular, I cannot perform any of
14 my research on diabetic retinopathy because my research team and I need to be able to conduct
15 experiments and collect data that we can analyze. This is impossible without the grant, so NSF’s actions
16 have stymied my team’s ability to research this condition over the next three years.

17 24. Meanwhile, the withholding of federal funding for my slime mold research has resulted
18 in the irreplaceable loss of talent who would have otherwise been on my research team had the funding
19 been authorized. Before the end of July 2025, I had a student who was working with me on research that
20 was going to inform our slime mold project. Had the federal funding been awarded, he would have stayed
21 in my lab and would have participated in the project. But since the funds are frozen, my student has left
22 my team, depriving my lab of talent, knowledge, and experience.

23 25. The slime mold grant would have also provided three UCLA undergraduate students with
24 an invaluable, unique opportunity to conduct summer research alongside German undergraduates at
25 UCLA and at TU Munich over the next two summers. Undergraduate students do not typically have the
26 chance to conduct experiments with peers abroad, but my colleagues and I will not be able to provide
27 this formative experience for our students if we do not receive the recommended grant funding.

28 26. I cannot see the reviews that either project received because the grants are frozen, but

1 based on the recommendation status and from what I heard from NSF Program Directors, these projects
2 were competitive and valuable to the scientific community. This means that the freezing of the funds
3 will foreseeably result in the loss of scientific knowledge and research that would have benefited the
4 national scientific community and the greater public interest.

5 27. It is my understanding, based on conversations with colleagues, that as of the date of this
6 declaration, NSF is still not awarding or dispensing new grant money to UCLA.

7 I declare under penalty of perjury that the foregoing is true and correct.

8 Executed this 31st day of October, 2025.

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10 *Marcus Roper*
11 _____
12 Marcus Roper
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