Trump's second term is reshaping US science with unprecedented cuts and destabilizing policy changes

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Before 2025, science policy rarely made headline news. Through decades of changing political winds, financial crises and global conflicts, funding for U.S. research and innovation has remained remarkably stable, reflecting the American public's strong support for investing in basic science.

In his first year back in office, President Donald Trump's relentless attempts to overhaul the federal support system for research and development has put science policy back above the fold.

As a policy scholar, I study how American presidents treat science and technology. Trump is far from the first president to be deeply skeptical of the academic research community. But his second-term actions have set a new precedent for the level of mutual distrust and its consequences for scientists.

Unlike Trump's first term, which lacked a coherent science policy beyond its attempted across-the-board cuts to federal research agencies, his current administration has used science policy as a vehicle for its ideological goals. Policy levers historically used to drive science in the national interest have instead been repurposed to punish universities, limit freedom of inquiry and promote private sector interests.

Given science and technology's critical importance to the nation's economic growth, industrial competitiveness and national security, it's worth taking a look back at science policy in 2025, a year of unprecedented reform – and resilience.

Science gets a voice

The conservative Heritage Foundation's Project 2025, which provided much of the blueprint for Trump's second term, recommended the president "increase the prominence" of the director of the White House Office of Science and Technology Policy. To that end, then-President-elect Trump named Michael Kratsios as Office of Science and Technology Policy director and his chief scientific adviser weeks before taking office, tasking him with "(blazing) a trail to the next frontiers of science."

As head of the White House Office of Science and Technology Policy, Michael Kratsios' role is to advise President Trump on science-related matters.

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Kratsios, a high-ranking alum of the first Trump administration and protégé of billionaire tech investor Peter Thiel, shares Trump's skepticism of universities. His tenure in the White House has so far been marked by highlighting the failures of the U.S. science policy system rather than its successes. For Kratsios, American science is suffering from an outdated and morally corrupt incentive system too reliant on research universities.

Kratsios arrived at the White House with a clear vision for redesigning America's 80-year-old social compact for science in line with Trump's political agenda. In under a year, he helped push through four major science policy reforms.

“Gold Standard Science” recommits the U.S. to scientific integrity and adds political oversight into agency operations.

Another sweeping executive order works to centralize federal grantmaking and align research activities with presidential priorities.

The White House AI Action Plan supports AI upskilling and reskilling workforce programs and catalyzes private sector innovation through deregulation.

And Project Genesis, branded as a successor to the Manhattan Project and Apollo program, leverages public datasets and the computing infrastructure of the Department of Energy’s national labs to advance AI for science.

Taken together, Trump’s second-term science policy reflects several emerging trends in U.S. research policy: the public’s growing distrust of higher education, the private sector’s accelerating investment in fundamental research, and the government’s increasing appetite for state interventions to increase scientific and industrial competitiveness.

A broken partnership

Science has always been a system of patronage. Since the end of World War II, the U.S. government has served as the primary patron of fundamental research at American universities.

The year 2025 has laid bare the fragility of this setup, where research universities sit at the center of the U.S. innovation system. The Trump administration spent the year inventing and deploying new strategies to pause, terminate and severely curtail grants to academic institutions, testing the limits of executive authority over budget decisions.

Demonstrators protested funding cuts at NIH in May.

Kayla Bartkowski/Getty Images

The chaos of canceled awards, court challenges and reinstatements prompted NSF and NIH to get creative. Rushing to spend their appropriations before the end of the fiscal year on Oct. 1, they distributed over 20% fewer grants but paid out more money up front to multiyear awards – a fundamental change to how agencies have spent money.

In parallel, Trump proposed massive spending cuts to federal research agencies as part of his administration's stated effort to dismantle the administrative state.

A budget impasse between the White House and House Democrats over certain Medicaid expansion subsidies led to a historic 43-day government shutdown. To end the shutdown, Congress opted to punt its final budget for this fiscal year to the end of January 2026 through what's known as a continuing resolution. The stopgap law keeps budget levels unchanged from the prior year but makes it nearly impossible for agencies to plan for the following year.

Trump's outright attacks on higher education aren't the only source of uncertainty about next year's science budget. The White House's push to cap overhead costs at 15% and the university endowment tax passed this past summer in what the GOP calls the "One Big Beautiful Bill" have universities scrambling to balance the books.

Students caught in the crossfire

For many students and early-career scientists, the Trump administration's actions toward higher education pose an existential threat to their research careers in the United States. As universities tighten their belts, they're significantly reducing available spots in Ph.D. programs.

Students at Harvard, one of Trump's biggest targets for reform, responded to policies that affected international students.

Selcuk Acar/Anadolu via Getty Images

Trump's immigration policies and anti-DEI actions have further jeopardized the career viability of international students and scholars and students from minority or historically marginalized groups. A battery of executive orders, immigration reforms and enforcement have upended the lives of thousands of young scientists. International student enrollment in U.S. colleges and universities dropped by an estimated 17% this fall.

The effects of these actions extend far beyond the elite universities targeted by Department of Justice investigations, undermining American soft power and placing a generation of future U.S.-based scientists at risk.

The ghost of DOGE lingers

The early days of Trump's second term will likely be remembered for Elon Musk's outsize influence inside the White House and the launch of the Department of Government Efficiency. DOGE was tasked with reigning in the federal bureaucracy and rooting out alleged "billions and billions in fraud, waste and abuse."

For science, DOGE's cost-cutting crusade meant hollowing out agency expertise, ripping up contracts and searching for keywords from Sen. Ted Cruz's list of woke science topics, such as climate change, DEI, misinformation or even "women," in grant applications to terminate.

In practice, DOGE made little measurable progress toward Musk's target of $1 trillion in reduced spending. Instead, DOGE closed shop in November 2025, eight months before its charter was set to expire.

DOGE's well-publicized flop masks its less visible but more pernicious legacy: Instead of disappearing, it has been institutionalized. Trump's budget director, Russell Vought, who spent 2025 taking aim at the federal workforce, is leveraging DOGE's network to continue its core mission. Through forced relocations, layoffs, a deferred resignation program and the legal gray area of the shutdown, Vought is pushing science-mission agencies to reform their grant review processes and align new grants with Trump's priorities.

By the start of December 2025, over 200,000 civil servants had left the federal workforce, including nearly 5,000 from NASA, 600 from NSF and at least 14,000 from the Department of Health and Human Services, the parent department of NIH.

The politics of science advice

In the 80 years following Vannevar Bush's 1945 report to President Harry Truman, Science, the Endless Frontier, scientists have found themselves outside the president's inner circle more than inside it. Even Bush, despite his legendary stature in science policy then and now, left the White House just two years later, frustrated by Truman's unwillingness to take his advice.

With only occasional exceptions, when the interests of the president and the scientific community aligned, science advisers have rarely captured the attention of presidents in the decades since.

Kratsios seems to have Trump's ear. The future of U.S. science rests not on whether government-sponsored research will survive the next three years. Instead, it rides on U.S. higher ed's ability to regain the trust of the American public – and the White House.

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