Science Advancement & Outreach
A DIVISION OF PETA

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NSF seeks public input on its Fiscal Year (FY) 2026–2030 NSF Strategic Plan

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1. What opportunities exist that could help enable progress toward NSF's objectives and strategies?

The National Science Foundation's (NSF) FY 2026–2030 Strategic Plan must prioritize funding basic research that relies on human biology–based systems and signify that the agency will stop funding human health research that uses other species. To uphold the tenets of Gold Standard Science, NSF must modernize its research portfolio by reducing reliance on animal experimentation.

Studies have shown that conducting experiments on animals to study human diseases is flawed and inefficient, consuming substantial financial and scientific resources that could be directed toward more predictive, human-relevant methods. Fundamental differences in genetics, cellular behavior, physiology, and disease mechanisms across species explain why findings from experiments on animals consistently fail when applied to humans. Even after extensive animal testing, approximately 95% of drug candidates fail in human clinical trials (https://ncats.nih.gov/research/research-activities/ntu), and 90% of basic research—much of it dependent on animal use—never translates into routine clinical practice (https://doi.org/10.1016/s0002-9343(03)00013-5). These shortcomings are compounded by a reproducibility crisis, with 89% of preclinical studies proving irreproducible at an estimated annual cost of $48 billion (https://doi.org/10.1371/journal.pbio.1002165). In addition, tests on animals routinely miss human drug toxicities, failing to predict adverse effects in roughly 81% of cases (https://doi.org/10.1016/j.yrtph.2012.09.002).

These persistent shortcomings can be addressed by accelerating the development and adoption of non-animal, human-relevant technologies. Such methods rely on human cells, tissues, and data and are therefore better suited to predicting human biological responses. By prioritizing these approaches, NSF can strengthen its legacy of scientific integrity by funding research that is transparent, rigorous, reproducible, and impactful. Notably, recent drug candidates tested entirely using non-animal methods have advanced to clinical trials, underscoring the growing potential of these approaches to improve translational success (https://www.pcrm.org/news/innovative-science/fda-approves-new-cancer-drug-clinical-trials-based-nonanimal-data-only; https://www.sandiegouniontribune.com/2025/12/31/uc-san-diego-lab-lands-fda-approval-for-breakthrough-clinical-trials).

This shift in focus is also essential for training the next generation of scientists and advancing American leadership in science and technology. Although regulators and industry are increasingly moving away from animal testing, many trainees remain stuck with outdated animal models due to gaps in funding, infrastructure, appropriate mentorship, and education. Without targeted support, early-career scientists risk graduating without experience in the human-relevant tools that are shaping the future of biomedical research. NSF is uniquely positioned to address this challenge by supporting research and training programs, fellowships, and curricula focused on non-animal methods, ensuring that emerging scientists are prepared to work at the forefront of biotechnology, computational science, and translational research while strengthening the rigor, efficiency, and global competitiveness of the U.S. research enterprise.

5. Please provide your affiliation or other context that will help NSF understand your response. For example, you may describe your role in science, research, education, policy, etc., the name of any organization you represent, your approximate location (e.g., state or region), or how you interact with NSF. These details may help NSF analyze your feedback and allow us to more effectively apply your input as we implement the Strategic Plan.

Science Advancement and Outreach is the biomedical research policy division of the nonprofit organization People for the Ethical Treatment of Animals (PETA). PETA entities have more than 10 million members and supporters globally, and PETA U.S. is the largest animal rights organization in the world.