

**Written Statement**  
**Nicholas Spitzer, PhD, President, Society for Neuroscience**  
**Subcommittee on Commerce, Justice, Science and Related Agencies**  
**Appropriations Committee**  
**In Support of FY 2027 Appropriations for the National Science Foundation**

Chair Rogers, Ranking Member Meng, and members of the Subcommittee, on behalf of the Society for Neuroscience (SfN), I am honored to present this testimony in support of robust appropriations for biomedical research at the National Science Foundation (NSF). SfN urges you to provide at least \$9.9 billion for NSF in Fiscal Year (FY) 2027. For researchers nationwide, the ability to make life-changing advancements in neuroscience depends on significant and sustained federal funding.

One focus of my lab's research at the University of California, San Diego is the study of neurotransmitter switching, a newly recognized form of brain plasticity in which neurons change the transmitters, the biochemicals they produce and release in response to prolonged sensory, motor, or emotional activity to signal to other nerve cells. Our work examines the environmental and molecular cues that trigger neurotransmitter switching in both developing and adult brains and explores its role in memory, stress responses, and cognitive disorders from exposure to drugs of abuse. Understanding these processes offers new opportunities to promote healthy brain function and to develop therapeutic approaches for neuropsychiatric and neurodegenerative disorders. Continued progress in biomedical research like mine depends on robust and sustained federal investment.

**The Importance of the Research Community**

Basic science is the foundation upon which all health advances are built, and we must understand the origins of disease through fundamental discovery-based research to find new and safer cures and treatments. SfN is grateful to Congress for its investments in biomedical research and for its support of the mission of NSF, but it is critical that funding is sustained to achieve the goals of these investments. Through substantive appropriations in recent years, NSF has focused on promoting the progress of science and advancing the national health, prosperity, and welfare.

NSF funding for basic research is not only critical for enabling groundbreaking discoveries; it is essential for building our scientific workforce. For the United States to remain the world leader in biomedical research and to maintain and grow opportunities across areas of science, Congress must continue to fund the training pipeline of the scientific workforce. Young trainees today are the ones who will make the key discoveries of the future. The deeper our grasp of basic science, the more successful those focused on clinical and translational research will be. Neuroscientists use a wide range of experimental, animal, and human models not used elsewhere in the research pipeline. These opportunities create discoveries – sometimes unexpected discoveries – expanding knowledge of biological processes. This level of discovery reveals new targets for research to treat all kinds of brain disorders affecting millions of people in the United States and beyond.

NSF basic research funding is also a key economic driver of science at universities and research organizations across the country and generates jobs in all states across the nation. Federal investments in scientific research fuel the nation's pharmaceutical, biotechnology, and medical

device industries. The private sector leverages NSF-funded scientific discoveries to improve health outcomes and sustain America's Research and Development (R&D) enterprise. Basic science generates the knowledge needed to uncover the mysteries behind human diseases, ultimately leading the private sector to develop new treatments and therapeutics. Importantly, industry rarely funds this early-stage research given the long-term path of basic science and pressure for shorter-term return on investments. Congressional investment in basic science is essential and irreplaceable in the pipeline for development of drugs, devices, and other treatments for brain related diseases and disorders as seen in the below examples of NSF-funded research.

#### *Understanding the Brain Project*

Understanding the Brain Project (UtB) is an example of NSF's success by enabling scientific understanding of the full complexity of the brain through targeted, cross-disciplinary investments in research, technology, and workforce development. NSF's strategic investments in neural mechanisms and processes, brain function modeling, and neurotechnology will support research and infrastructure designed to transform our view of who we are and understanding the structure and function of the brain.

#### *NSF Research Reveals Rapid Learning and New Brain Mechanisms*

Understanding the mechanisms driving human decision-making has been a long-standing goal of neuroscientists. NSF-funded researchers at the University of Texas El Paso have developed a new framework to study the human decision-making process. The new framework allows for testing in a natural, unrestricted environment which greatly augments the capacity to model challenges inherent to daily living. The NSF funding these researchers received allowed them to develop this framework, and without sustained federal funding, scientists may still be relying on frameworks with limited transferability. Sustained federal funding for research is crucial to ensure that researchers can continue to make groundbreaking discoveries.

#### **Call for Stable Funding for the Research Enterprise**

SfN joins the biomedical research community in supporting an increase in NSF funding to at least \$9.9 billion in FY 2027. This proposed increase is necessary to provide certainty to the field of science, allow for the exploration of new scientific inquiry, train the next generation of scientists, and foster increased economic growth and further improvements in the public's health. Further cuts to discretionary investments would have a devastating impact on NSF-funded research and would hurt the country's ability to maintain its international competitiveness in this space. Government shutdowns and continuing resolutions have significant consequences on research, including restricting NSF's ability to fund new grants and to fund current grants in a timely manner. For some of our members, this means waiting for a final decision to be made on funding before knowing if their highly scored grant will be realized or operating a lab at a diminished capacity until appropriations are final. These consequences can be particularly devastating for trainees seeking to begin their careers.

Reliable funding allows researchers to plan long-term studies, develop technologies, and engage in groundbreaking science without disruption. Uncertainties surrounding the research enterprise and funding have led to early career scientists considering leaving the field altogether. Ensuring federal funding for biomedical research remains robust and reliable is essential to the future of research in the United States. SfN strongly supports the appropriation of at least \$9.9 billion in

NSF funding in a timely and efficient manner to avoid delays in approving new research grants or reductions in funding for already approved research projects.

SfN thanks the subcommittee for its continued bipartisan support of foundational research and looks forward to working with you to ensure the United States remains the global leader in neuroscience research and discovery. Collaboration among Congress, the NSF, and the scientific research community has created great benefits for not only the United States but also people around the globe suffering from brain-related diseases and disorders. On behalf of the Society for Neuroscience, we urge you to continue this critical cooperation and support of biomedical research.