Written Statement
Nicholas Spitzer, PhD, President, Society for Neuroscience
Subcommittee on Labor, Health and Human Services, Education and Related Agencies
Appropriations Committee
In Support of FY 2027 Appropriations for the National Institutes of Health

Chair Aderholt, Ranking Member DeLauro, 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 Institutes of Health (NIH). SfN urges you to provide at least $51.303 billion for NIH in Fiscal Year (FY) 2027, a $4.087 billion increase over FY 2026 funding, and $468 million for the Brain Research Through Advancing Innovative Neurotechnologies (BRAIN) Initiative. For researchers across the nation, the ability to make life-changing advancements in the field of neuroscience is contingent upon 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. As an NIH-funded scientist, 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, but it is critical that funding is sustained to achieve the goals of these investments.

NIH funding for basic research is not only critical for the health and well-being of Americans; it is essential for building our scientific workforce. For the United States to remain the world leader in biomedical research, Congress must continue to provide funding to fuel discoveries as well as the economy. 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.

NIH basic research funding is also a key economic driver of science in the United States through funding universities and research organizations across the country and generates jobs in all states across the nation. According to United for Medical Research, NIH funding in FY 2025 supported 390,863 jobs and produced $94.15 billion in new economic activity nationwide. For every $1 invested in NIH research, there was $2.57 generated in economic activity, which is a 250% return. Federal investments in scientific research fuel the nation's pharmaceutical,

biotechnology, and medical device industries. The private sector leverages NIH-funded scientific discoveries to improve health outcomes and sustain America's research and development 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 in the private sector. Congressional investment in basic science is essential and irreplaceable for development of drugs, biologics, devices, and other treatments for brain-related diseases and disorders as outlined in the below example of NIH-funded research.

Scientists Discover New Alzheimer's Biomarkers
NIH-funded research has led to the discovery of a new type of blood test for Alzheimer's disease that detects subtle structural changes in proteins, offering deeper insights into the underlying biology of the disease. In a study supported by the National Institute on Aging (NIA), scientists identified a three-protein panel that accurately distinguishes between Alzheimer's, mild cognitive impairment, and healthy individuals. This breakthrough could enable earlier and more precise diagnosis and advance clinical trials for emerging treatments. This study highlights the transformative impact of sustained federal investment in biomedical research on improving public health and understanding complex diseases.

Support for the BRAIN Initiative
The BRAIN initiative is an example of NIH's success through its development of remarkable technologies for the entire research community enabling discoveries across neuroscience and related scientific disciplines, previously thought to be unimaginable. For more than a decade, research supported by the BRAIN Initiative has led to major breakthroughs – for example, researchers have gained new knowledge of how the brain encodes, stores, and retrieves information. Basic research such as this is critically important to find cures and treatments for diseases and brain disorders. BRAIN is lifting all boats ranging from basic science to disease-focused research in a complex neuroscience research ecosystem involving government, industry, philanthropy, and healthcare systems.

Building on a remarkable decade of innovation and discovery, the BRAIN Initiative is now setting its sights high with large-scale projects to overcome current barriers in knowledge and technology related to human brain science. Continued support and investment in the BRAIN Initiative is essential. Through funding from the 21st Century Cures Act, Congress helped sustain BRAIN's remarkable momentum. However, as 21st Century Cures funds expire at the conclusion at FY 2026, it is crucial to ensure increased funding for the base budget of the BRAIN Initiative. SfN appreciates Congress' ongoing investment in the BRAIN Initiative and urges Congress to restore BRAIN Initiative funding to at least $468 million in FY 2027.

Congress & NIH Must Support Access to Models Necessary for Neuroscience Discovery
SfN urges the Committee to appropriate funding for biomedical research without restriction against the use of animal models. Adequate NIH funding is necessary to advance our understanding of the brain; however, full realization of this promise requires appropriate access to research models, including non-human primates and other animal models. Animal research is

highly regulated to ensure the ethical and responsible care and treatment of the animals and SfN and its members are committed to the highest legal and ethical standards.

While SfN embraces the goal of the reduction, refinement, and eventual replacement of animal models in biomedical research, much more research and time is needed before such a goal is attainable. Premature replacement of animal models with new approach methodologies (NAMs) including AI, organoids, and in-vitro models, may delay or prevent the discovery of treatments and cures—not only for neurological diseases like Alzheimer's disease, addiction, and traumatic brain injury, but also for communicable diseases and countless other conditions. SfN supports the thoughtful incorporation of validated and appropriate NAMs in biomedical research, however, these tools must complement, proven and currently irreplaceable animal models. A hybrid approach, combining NAMs with essential animal models, enables researchers to refine their studies, reduce the number of animals used, and enhances the efficiency of biomedical research.

There are currently no viable alternatives available for studying biomedical systems that advance our understanding of the brain and nervous system; or when seeking treatments for diseases and disorders like depression, addiction, epilepsy, neurodevelopmental disorders like autism, neurodegenerative disorders, and post-traumatic stress disorders. SfN urges Congress to work with the NIH to ensure this important and well-regulated research with animal models can continue.

Call for Stable Funding for the Research Enterprise

SfN joins the biomedical research community in supporting an increase in NIH funding to at least $51.303 billion for existing NIH Institutes and Centers (ICs) in FY 2027. Continued cuts to discretionary spending would have a devastating impact on medical research and would hurt the country's ability to maintain its international competitiveness in this space. Equally important as providing a reliable increase in funding for biomedical research is ensuring funding is approved in a timely manner. Government shutdowns and continuing resolutions have significant consequences on research, including restricting NIH'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, and some early-career scientists are considering leaving the field altogether. Reliable funding allows researchers to plan long-term studies, develop technologies, and engage in groundbreaking science without disruption.

On top of this, efforts to cap NIH facilities and administration (F&A) grant costs would inherently result in diminished research activity and fewer discoveries being made in the United States. F&A costs are an essential component of biomedical research, including construction and upkeep of laboratory facilities and equipment, IT, safety measures and security personnel, and other critical infrastructure and functions. If the NIH F&A reimbursement rate is capped on a congressional level, research institutions of all sizes would have to downsize their biomedical research programs; they would not have funds to cover the costs of laboratories and expenses currently paid by F&A reimbursement. Thousands of skilled workers would lose their jobs along

with a larger number of jobs in their communities due to reduced economic activity, and tragically, some independent biomedical research institutes would be forced to close.

Additionally, increasing the amount of forward (multiyear) funded grants at NIH would also have significant unintended consequences for researchers. Increasing the number of multiyear awards, rather than funding grants annually, as is often done now, would reduce the total number of grants NIH can support. Fewer available awards would translate directly into fewer opportunities for scientific discovery across the biomedical research enterprise. Like the concerns surrounding proposals to cap F&A costs, increasing the number of multiyear awards resulting in uncertainty and reduced grant approval rate could drive more trainees to leave biomedical research altogether. Researchers nationwide have promising proposals that could lead to breakthroughs benefiting millions of Americans, however, increasing multiyear awards would mean fewer of these proposals are funded, ultimately jeopardizing the United States' position as the global leader in biomedical research.

Ensuring federal funding for biomedical research remains robust and reliable is essential to the future of research in the United States. All the positive benefits that research provides in this country are negatively impacted by these real time considerations and destabilization efforts. SfN strongly supports the timely and efficient appropriation of NIH funding to prevent delays in the approval of new research grants and to ensure stable funding for ongoing research projects.

SfN thanks the subcommittee for its continued bipartisan support of biomedical 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 NIH, and the scientific research community has created great benefits for not only the United States but also for people around the globe suffering from brain-related diseases and disorders. On behalf of the Society for Neuroscience, we urge you to continue your strong support of biomedical research.