



# NIH Blueprint for Neuroscience Research

Twelve NIH Institutes and Centers participate in the NIH Blueprint for Neuroscience Research: NCCIH, NEI, NIA, NIAAA, NIBIB, NICHD, NIDA, NIDCR, NIEHS, NIMH, NINDS, OBSSR

## The Blueprint Mission

The [NIH Blueprint for Neuroscience Research](#) aims to accelerate transformative discoveries in brain function in health, aging, and disease. Blueprint is a collaborative framework that includes the NIH Office of the Director together with NIH Institutes, Centers, and Offices that support research on the nervous system. By pooling resources and expertise, Blueprint identifies cross-cutting areas of research and confronts challenges too large for any single Institute or Center. **Since its inception in 2004, Blueprint has invested over \$615M to support the development of new research initiatives, training opportunities, and tools and resources to assist the neuroscience community.**

## Large-Scale Programs

Blueprint Grand Challenges, like the [Human Connectome Project](#), have catalyzed our basic understanding of the brain and our approaches to treating brain disorders. Current large-scale NIH Blueprint programs include:

- The [Blueprint Neurotherapeutics Network for Small Molecules](#) provides funding and support for small molecule drug discovery and development, from hit-to-lead chemistry through phase I clinical testing.
- The [Blueprint Neurotherapeutics Network for Biologics](#) provides funding and resources for biotherapeutic drug discovery and development, from lead optimization through phase I clinical

testing. This program includes the spectrum of biologics, such as biotechnology products and biologics-based therapies (e.g., peptides, proteins), gene-based therapies (e.g., oligonucleotide and viral based), cell therapies, and other novel emerging therapies (e.g., microbial and microbiome therapies).

- [Blueprint MedTech](#) provides funding, resources, and support services needed to catalyze the translation of novel neurotechnologies from early-stage development to first-in-human studies. The goal of the Blueprint MedTech program is to accelerate patient access to groundbreaking, safe, and effective medical devices and to advance the development of therapeutic and diagnostic devices for disorders that affect the nervous or neuromuscular system.

## The BRAIN Initiative®

Announced in April 2013, [Brain Research Through Advancing Innovative Neurotechnologies® \(BRAIN\) Initiative](#), a coordinated effort among public and private institutions and agencies aimed at revolutionizing our understanding of the human brain. NIH has a large role in this effort, and Blueprint was one of the inaugural sponsors of the BRAIN Initiative by investing \$10M in 2014 on high priority research areas. To date, Blueprint has invested over \$52M in BRAIN Initiative research. Together, NIH Blueprint and NIH BRAIN support many programs focused on [diversity and scientific excellence](#).

## Training and Inclusion

NIH Blueprint is focused on creating a diverse neuroscience workforce with a strong foundation in experimental design, statistics, and quantitative theory. Some examples of training opportunities supported by NIH Blueprint include the following:

- The [Computational Training in Neuroscience and Behavior \(T90/R90\)](#) aims to support research training programs in computation neuroscience and behavior for undergraduate and predoctoral level students. The training programs expose undergraduate and graduate students to a wide range of neuroscience and behavioral questions, quantitative methods, and

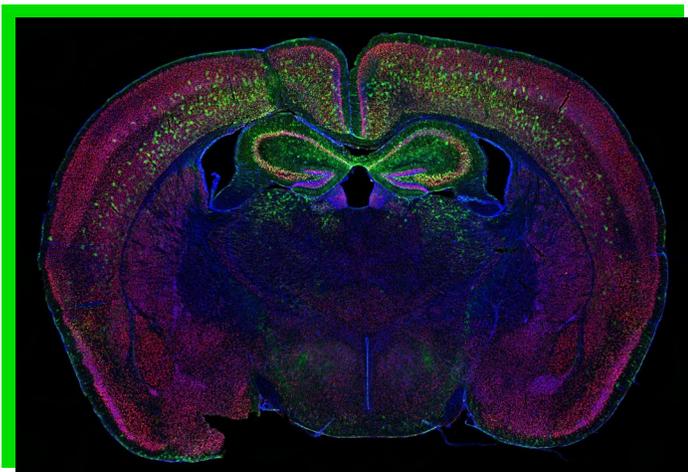


Photo credit: Allen Yen, Washington University School of Medicine

experimental systems to ensure a strong dual foundation in clinical and quantitative science. This foundation is expected to give trainees the ability to adopt new computational theory and methodology and apply these methods to relevant questions in health and disease.

- The [NIH Blueprint Enhancing Neuroscience Diversity through Undergraduate Research Education Experiences \(ENDURE\)](#) program aims to provide individuals who are typically underrepresented in the field of neuroscience with training at the undergraduate level, so that they are prepared to enter and successfully complete neuroscience PhD programs. ENDURE will provide this training through partnerships between research-intensive institutions and institutions with substantial enrollment of neuroscience majors from diverse groups. This includes individuals from underrepresented racial and ethnic groups, individuals with disabilities, and individuals from economically disadvantaged backgrounds. ENDURE will support a range of activities to increase student interest and involvement in the neurosciences, including research experiences, core and advanced neuroscience courses, seminars, and journal clubs.
- The [Jointly Sponsored Institutional Predoctoral Training Program in the Neurosciences \(JSPTPN\)](#) is an institutional program that supports broad and fundamental research training in the neurosciences. This T32 enables program leadership at awardee institutions to appoint students to the T32 in their first two years in a PhD program. In addition to a broad education in the neurosciences, a key component is a curriculum that provides a strong foundation in experimental design, statistical methodology, and quantitative literacy.

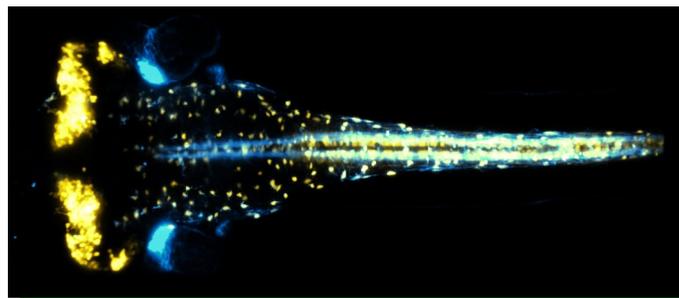


Photo credit: Yunlu Zhu, New York University (NYU) Langone Medical Center

- The [NIH Blueprint Diversity Specialized Predoctoral to Postdoctoral Advancement in Neuroscience \(D-SPAN\) Award \(F99/K00\)](#) aims to support a defined pathway across career stages for outstanding graduate students who are from diverse backgrounds underrepresented in neuroscience research. This award will facilitate completion of the doctoral dissertation and transition of talented graduate students to strong neuroscience research postdoctoral positions and will provide career development opportunities relevant to their long-term goal of becoming independent neuroscience researchers.

### Other Funding Opportunities

The NIH Blueprint for Neuroscience Research supports cross-cutting neuroscience activities like research training, workforce diversity, therapeutic development, and other research initiatives. Visit the [NIH Blueprint Funding Opportunities](#) webpage to see all funding opportunities, requests for applications, and program announcements.

### Resources

NIH Blueprint supports the neuroscience community through a number of [research tools and resources](#), including the two highlighted below:

- The NIH [NeuroBioBank](#) catalyzes scientific discovery by providing centralized resources focused on the collection and distribution of human post-mortem brain tissue. This network of brain and tissue repositories provide thousands of samples per year to the research community studying neurological, developmental, and psychiatric disorders.
- The [Neuroimaging Informatics Tools and Resources Collaboratory \(NITRC\)](#) triad of services include a resources registry, data commons, and cloud-based virtual machine with popular neuroimaging software pre-installed. These services help researchers save time, meet data sharing requirements, and leverage cloud-based computing on increasingly larger data sets.

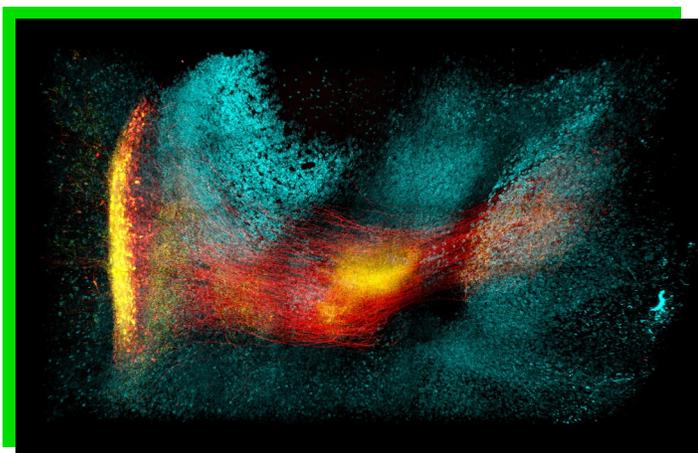


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