**BRAIN Initiative**

Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative

- A multidisciplinary collaboration involving public and private partners to develop technologies and revolutionize our understanding of the human brain.
- With funding from the BRAIN Initiative, researchers are developing the tools and knowledge needed for *lifesaving breakthroughs*.
- New resources will enable the broader field to *progress faster* in understanding the most complex biological structure in the universe.
- The BRAIN initiative requires sustained, robust funding to make *vital discoveries* possible.
- As of FY 2019, NIH has contributed about **$1.45 billion** to the BRAIN Initiative; NIH recommends **$500 million** in funding per year for the second phase of the program.
- In FY 2019, **182 grants** were funded by the BRAIN Initiative.

**Catalyzing the Overall Neuroscience Investment**

NIH: Collaboration among 15 NIH Institutes & Centers that support neuroscience

- BRAIN is a small, but important part of NIH funding, accounting for around 1% of the total neuroscience research budget.
- Pooled resources connect NIH institutes and centers to confront research challenges too complex to be handled by a single institute.

**National Science Foundation (NSF) Led Project**

- NSF’s Understanding the Brain (UfB) project aims to enable scientific understanding of the interaction between the brain, behavior, and environment through targeted *cross-disciplinary* investments.
- In FY 2019, **$122 million** in funding was dedicated to cognitive and neuroscience research done through this project, which includes funding for the BRAIN Initiative.
- These investments are resulting in *tool and technology* creation.

**Partnerships**

- Additional federal departments and agencies participate in the BRAIN Initiative, including the Department of Defense, the Department of Energy, Food and Drug Administration, and more.
- The BRAIN Initiative leverages foundations like the Kavli Foundation, the Simons Foundation, the Allen Institute for Brain Science, the Pediatric Brain Foundation, and the Howard Hughes Medical Institute.
- Includes industry partners like Google, GE, Inscopix, Medtronic, GlaxoSmithKline, and others.

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**Recent Advancements**

- **The Allen Institute for Brain Science**
  - Developed the Most Detailed Brain Map to Date
  - In 2019, the Allen Institute for Brain Science unveiled the most detailed ‘parts list’ of the human brain to date. The project (which spanned five years) involved combining high-resolution neuroimaging with genetic-based cellular-level mapping to create a complete digital brain atlas. The atlas was made available online to scientists and the public through brain-map.org. This will help future brain studies to more accurately plan research.1

- **University of California, San Francisco**
  - Created Speech From Brainwaves
  - Scientists at the University of California, San Francisco used brain signals recorded from epileptic patients to program a computer to mimic natural speech. Paralysis caused by stroke or other neurological conditions can rob a person’s ability to speak. This new approach could one day help paralyzed patients communicate.2

- **Simons Collaboration for the Global Brain**
  - Supported a Study to Understand Communication Disorders
  - In a study supported by the Simons Collaboration for the Global Brain, a BRAIN initiative scientist at the New York University School of Medicine measured brain activity from musical mice while they sang duets, and discovered a brain region critical for the split-second timing of songs. This fascinating may lead to therapies for communication disorders, such as autism.3
Sources

8. The BRAIN Initiative Funded Awards. Braininitiative.nih.gov

The Society for Neuroscience (SFN) is a nonprofit membership organization of over 36,000 scientists and physicians who study the brain and nervous system. Visit SfN.org or email advocacy@sfn.org to learn more.