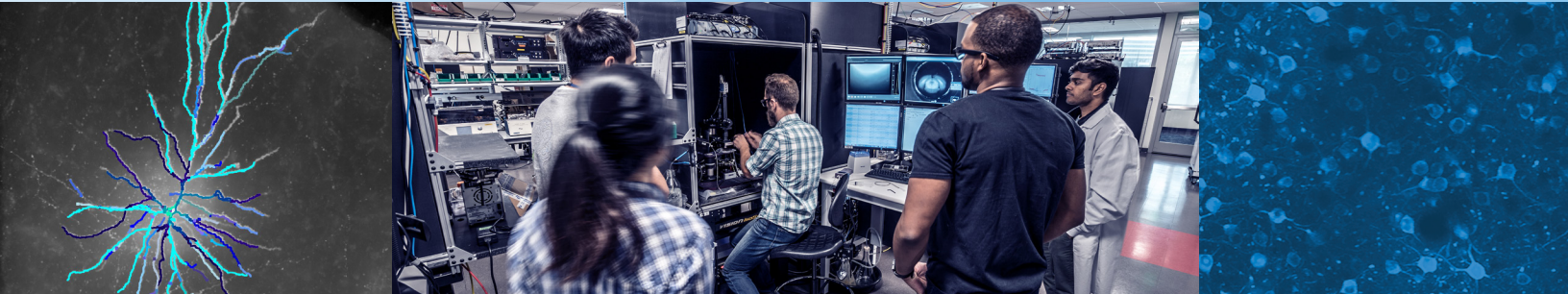


ACCELERATING OUR UNDERSTANDING OF THE BRAIN



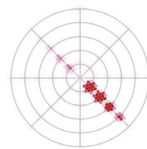
The human brain is the most complex piece of organized matter in the known universe. We use our singular approach to uncover its mysteries and share valuable resources with the global community of neuroscientists.

Our research programs aim to uncover and share the fundamentals of the brain: identifying its components, observing brain activity in action, and producing large-scale, open science resources that empower the global neuroscience community to make novel discoveries.

The first ten years of the Allen Institute for Brain Science built our legacy in comprehensive gene expression atlases of the mouse and human brain. Using the same guiding principles behind our atlases—big, team and open science—researchers at the Allen Institute are now driving forward to understand how the parts and structure of the brain give rise to its behavior.

OPEN DATA TO EXPLORE THE BRAIN

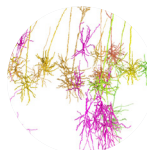
Our newest open resources expand our understanding of the brain by uncovering the diversity of its cells and watching it in action as it performs the tasks that give rise to perception, behavior and ultimately consciousness.



Allen Brain Observatory

The brain in action

The Allen Brain Observatory is the first tool of its kind to provide a highly standardized survey of cellular-level activity in the mouse visual system. With the data and tools in this resource, researchers around the world are empowered to investigate how circuits in the mouse brain coordinate while the mouse performs visual tasks, taking in and processing a wide range of visual stimuli.



Allen Cell Types Database

Building blocks of the brain

The Allen Cell Types Database is our first step toward creating a periodic table of cell types in the brain. Individual mouse and human cells are characterized by electrophysiology, morphology, gene expression and location to enable scientists to investigate how the billions of diverse cells in the brain can be sorted and catalogued.

ABOUT THE ALLEN INSTITUTE FOR BRAIN SCIENCE

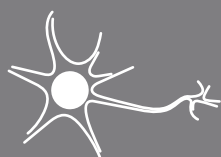
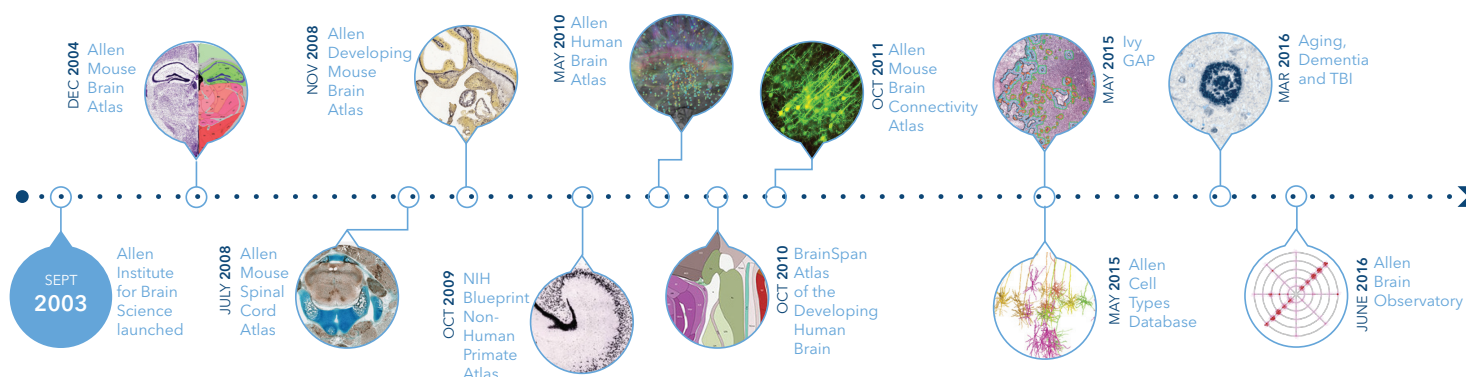
The Allen Institute for Brain Science is a division of the Allen Institute (alleninstitute.org), an independent, 501(c)(3) nonprofit medical research organization dedicated to accelerating the understanding of how the human brain works in health and disease. Using a big science approach, the Allen Institute generates useful public resources used by researchers and organizations around the globe, drives technological and analytical advances, and discovers fundamental brain properties through integration of experiments, modeling and

theory. Launched in 2003 with a seed contribution from founder and philanthropist Paul G. Allen, the Allen Institute is supported by a diversity of government, foundation and private funds to enable its projects. Given the Institute's achievements, Mr. Allen committed an additional \$300 million in 2012 for the first four years of a ten-year plan to further propel and expand the Institute's scientific programs, bringing his total commitment to date to \$500 million. The Allen Institute's data and tools are publicly available online at brain-map.org.

ACCELERATING OUR UNDERSTANDING OF THE BRAIN

OUR ACCOMPLISHMENTS

The first task of the Allen Institute for Brain Science was to create an atlas of the mouse brain: a molecular map showing where all genes are expressed in all regions of the brain. Since the public release of the initial atlas, the Allen Institute has produced a collection of open science resources that give users a powerful way to explore gene expression data, neural connections, single cell characterization and neuroanatomy.



BY THE NUMBERS

Since 2004, we have generated **5.47 petabytes of raw data** that is stored on tape. This is the equivalent of **nearly 22,000 256 gigabyte iPhone 7+ phones**.

The tape media on 3,638 individual tapes totals 2,761 kilometers, which would stretch **from Seattle to Banks Island, Canada—well inside the Arctic Circle**.

OUR CORE PRINCIPLES

The Allen Institute for Brain Science relies on a series of guiding principles that shape our unique approach to generating impactful science and unique public resources.

Team science

Teams at the Allen Institute are composed of neuroscientists, engineers, mathematicians, physicists and computational scientists—each bringing a new perspective to the challenges faced by modern brain science. We operate on open communication, sharing ideas among programs that cross disciplines and departments.

Big science

Our ambitious projects yield rich, robust data that give users the power to explore and find common threads in a way that cannot be done on a smaller scale. But we also embrace “big science” as a community movement, integrating powerful technology into each phase of our data collection to make sure that our data sets can be readily explored.

Open science

We cannot do our brand of big science without the spirit of openness. We share our data, tools and knowledge with the scientific community through the Allen Brain Atlas data portal as soon as it is useful—whether we have published it or not. Open science is a core principle of the Allen Institute’s identity and an integral part of our goal to accelerate the pace of science worldwide.

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