

ALLEN INSTITUTE FOR BRAIN SCIENCE

ABOUT THE ORGANIZATION

Launched in 2003, the [Allen Institute for Brain Science](#) is an independent, 501(c)(3) non-profit medical research organization dedicated to advancing brain research by delivering data and tools for free to scientists worldwide. Founded with \$100 million in seed money from philanthropist Paul G. Allen, the Institute tackles projects at the leading edge of science—far-reaching projects at the intersection of biology and technology. Our high-impact research fuels discovery across a wide range of scientific programs and disease areas, thereby addressing numerous health issues.

PUBLIC RESOURCES

The Allen Institute provides scientists and clinicians with a diverse variety of gene activity maps and highly sophisticated data search and viewing tools – all for free. These resources save researchers worldwide save time and money and may help provide clues to a variety of brain and spinal cord diseases and disorders. Each project can be accessed via the Web at www.brain-map.org, and include:

- Allen Mouse Brain Atlas
- Allen Spinal Cord Atlas
- Allen Developing Mouse Brain Atlas
- Sleep Study
- Human Cortex Study
- Transgenic Mouse Study
- Mouse Diversity Study
- Allen Human Brain Atlas
- NIH Blueprint Non-Human Primate Atlas
- Ivy Glioblastoma Atlas Project

AWARDS

- American Academy of Neurology – Paul Allen was honored with the “Public Leadership in Neurology Award” for his strong commitment to brain research. (2009)
- *TIME* – Paul Allen received the “Top 100 Most Influential People in the World” for his successful achievements at the Allen Institute. (2008, 2007)
- *WIRED* – Paul Allen and the Allen Institute received the “Rave Award” for the completion of the Allen Mouse Brain Atlas. (2007)
- Society for Neuroscience – Paul Allen received a “Special Recognition Award” for his generous contributions to neuroscience through his work with the Allen Institute. (2007)
- *TIME / USA Weekend* – Paul Allen was recognized by both *TIME* and *USA Weekend* as contributing one of the “Top Ten Medical Breakthroughs” for mapping the Mouse Brain. (2006)

IMPLICATIONS

Brain diseases and disorders affect millions of people, costing billions of dollars each year.

- **Mental disorders** – affect one in four, or 57.7 million Americans ([National Institute of Mental Health - NIMH](#))
- **Autism** – affects 1 to 1.5 million Americans, costing \$90 billion annually ([Center for Disease Control and Prevention - CDC](#))
- **Epilepsy** – affects an estimated 2.5 million Americans, costing \$15.5 billion annually ([Center for Disease Control and Prevention - CDC](#))
- **Alzheimer’s disease** – affects up to 4.5 million Americans, including an estimated 50 percent of people 85 and older. Every 70 seconds, someone develops Alzheimer’s ([National Institute on Aging - NIA](#))
- **Schizophrenia** – affects about 2.4 million, or one in 100 American adults ([National Institute of Mental Health - NIMH](#))
- **Parkinson’s disease** – affects 500,000 Americans, with 50,000 new cases diagnosed each year ([National Institute of Neurological Disorder and Stroke - NINDS](#))
- **Multiple Sclerosis (MS)** – affects an estimated 2.5 million people worldwide; More than 200 people are diagnosed every week in the US ([National MS Society](#))

SCIENTIFIC MODEL

The Allen Institute employs a high-throughput model, collecting data using an assembly line approach. The combination of laboratory robots, automated imaging devices and high-powered computational systems enables the generation of data on an unprecedented scale. To date, the Allen Institute has produced its public resources using *in situ* hybridization, which pinpoints and stains specific areas where a gene is expressed or “turned on.” By analyzing series of thin tissue sections scientists are able to view gene activity down to the level of individual cells. Digital photographs of this data are obtained using automated microscopes and incorporated into free, Web-based viewing applications.

FUNDING AND BUSINESS MODEL

We employ a unique business model, integrating the structure of a for-profit enterprise with the founding vision to take on ambitious, unprecedented projects at the leading edge of neuroscience. Our project-based approach delivers tangible results. Each project has a tight timeframe, tight budget and measurable milestones – ultimately culminating in a free, publicly available resource.

To support these endeavors, we’ve created a funding consortium of mutually interested donors as “investors” in breakthrough science. The Allen Institute seeks government funds, along with private contributions and foundation awards, as part of an ongoing public-private partnership to sustain the organization.

From the inaugural Allen Mouse Brain Atlas to our most recent studies, the unique combination of funding and business models has led to the development of resources that have the potential to create a global impact.

QUICK FACTS

- Since inception, the Allen Institute has generated data on over 2.8 million tissue sections.
- Our approximately 625,000 1X3 inch microscope slides, if laid end to end, would stretch 30 miles.
- More than 1 petabyte (1 million gigabytes) of image data has been collected.
- Approximately 20,000 unique users from around the world access the Allen Institute’s projects online every month.
- To help enhance access and performance, a “mirror” site has been established in Europe.
- Five years after the Institute opened, it outgrew its headquarters. During 2008, the Institute retrofitted its laboratories and offices to accommodate new projects and 30% increase in staff.

TEAM

The Allen Institute’s multidisciplinary team of more than 125 professionals in math, physics, engineering, neuroscience, molecular biology, genomics, informatics, information technology and others, enables the Institute to tackle large, high-impact projects at the intersection of biology and computational science.

FOUNDERS

Paul G. Allen
Jody Allen

LEADERSHIP

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Elaine Jones, Chief Operating Officer

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WEB SITES

To learn more about the Allen Institute, visit www.alleninstitute.org.
To access our public resources, visit www.brain-map.org.

MEDIA CONTACT

Aaron Blank, The Fearey Group for the Allen Institute for Brain Science
aaronblank@feareygroup.com, (206) 343-1543, (425) 736-5456 (mobile)