



FIRST EVER ALLEN BRAIN ATLAS HACKATHON UNLEASHES BIG DATA API TO PUSH NEUROSCIENCE FORWARD

Allen Institute for Brain Science's abundance of public neuroscience data and open API foster creative innovation and new tool development to fuel breakthrough scientific discoveries

SEATTLE, WASH. — June 25, 2012 — The Allen Institute for Brain Science convened the first ever Allen Brain Atlas Hackathon last week, opening its doors to a diverse group of programmers and informatics experts for a non-stop week of collaboration, learning and coding based on its public online platform of data, tools and source code. The event brought together more than 30 participants from top universities and institutes ranging from the Baylor College of Medicine in Houston to the Nencki Institute of Experimental Biology in Poland, as well as from start-ups and established technology companies, to develop data analysis strategies and tools based on the newly enhanced Allen Brain Atlas application programming interface (API).

"This hackathon stems from our longstanding, open approach to science and our belief that putting our data-rich resources in the hands of the many and varied experts around the globe is the most effective way to drive progress in brain research," said Chinh Dang, Chief Technology Officer of the Allen Institute for Brain Science. "The hackathon projects delivered innovative ways of handling data, offering direct contributions to the informatics and programming communities as well as to neuroscience. We hope that this event serves as a springboard for others out in the community to use our API, and we look forward to seeing what can be done with it."

The Allen Institute for Brain Science is one of the biggest data producers in neuroscience, with rapidly growing data stores in the petabyte range that it makes publicly available through its Web-based Allen Brain Atlas resources (www.brain-map.org). These resources include, among others, anatomically and genomically comprehensive maps of genes at work in the mouse and human brains and receive approximately 50,000 visits each month from researchers around the globe.

The public API was created as an additional form of data sharing to spur community technology development and further empower scientists to make groundbreaking discoveries about the brain in health and disease—including insights into learning, cognition, development, Alzheimer's, obesity, schizophrenia, autism, and more—that will deliver better treatment options sooner. The hackathon coincided with the public release of the full Allen Brain Atlas API earlier this month, and a key goal of the event was to ignite community momentum and interest in using it.

Using the Allen Brain Atlas API, developers can create entirely new software applications, mashups and novel data mining tools for making sense of the large and ever-growing volumes of neuroscience data. The API offers data access across species, ages, disease and control states, providing a powerful means to compare many types of data (e.g., histology images, gene expression, and MRI) among many types of samples (e.g., ages, species or diseases).

"The Allen Institute is a leader in large-scale open science, known for providing high-quality data and online tools that advance brain research," said Sean Hill, Executive Director of the International Neuroinformatics Coordinating Facility (INCF). "With the Allen Brain Atlas Hackathon and their public API, they are bringing the

same collaborative, community-focused approach to technology development and innovation that is at the core of INCF's mission.”

The hackathon program was designed to provide scientists and programmers a solid foundation in using the Allen Brain Atlas API for data mining, data analysis and tools development. The event featured a handful of speakers from the Allen Institute, as well as external experts who had leveraged earlier versions of the API in their work. As a hands-on workshop, participants spent most of the time working on projects of their choice. The Allen Institute development team actively participated throughout the week to provide specific examples of API usage, as well as to team up with community participants to develop collaborative projects. Participants' presentations throughout the week showcased their projects and progress, stimulating new ideas and benefiting from the collective feedback and troubleshooting power of the entire group.

Projects ranged from practical applications, such as using a list of glioblastoma-related genes to discover biological patterns that could shed new light on the biology of the disease and developing strategies to use gene expression data with functional brain scanning technologies, to purely creative applications, including translating genomic data into music.

Source code from participants' projects will be made publicly available on the Allen Brain Atlas data portal (www.brain-map.org) as part of the Allen Institute's next public data release in October, as well as through the INCF website (www.incf.org).

The Allen Brain Atlas Hackathon was hosted by the Allen Institute for Brain Science and funded jointly with the International Neuroinformatics Coordinating Facility (INCF).

About the Allen Institute for Brain Science

The Allen Institute for Brain Science (www.alleninstitute.org) is 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 team 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 www.brain-map.org.

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