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seeing science

SeeingScience

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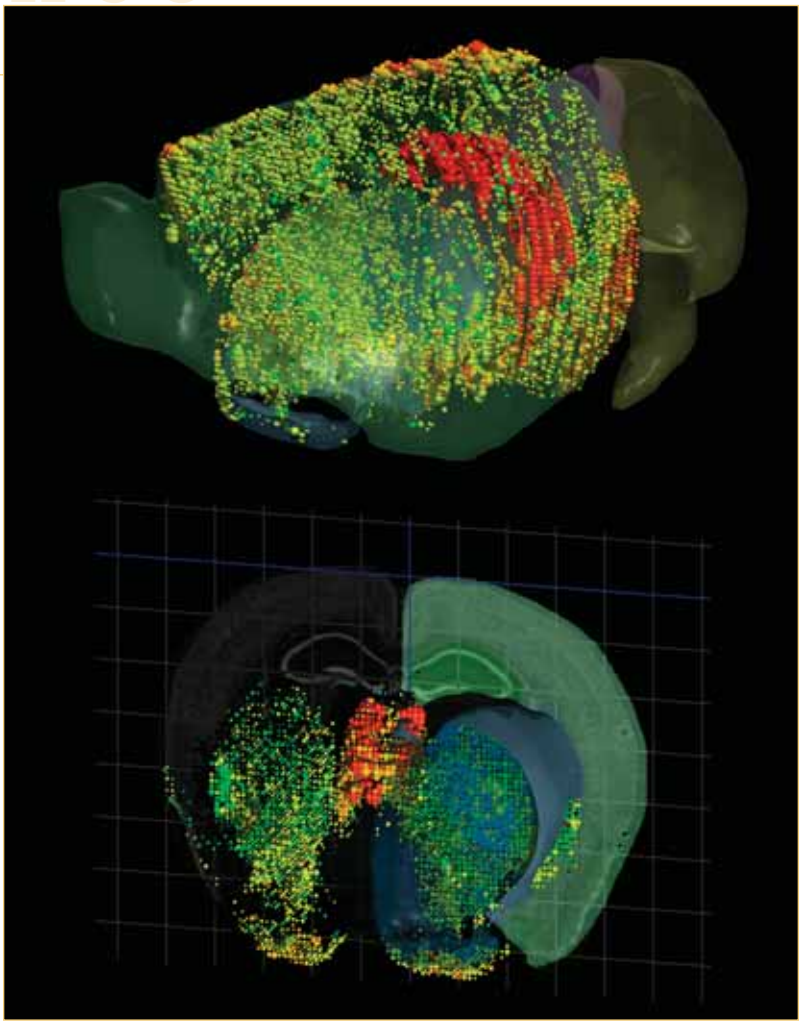
Allen Brain Atlas Launched

In three dimensions, researchers can now visualize the location and activity of more than 21,000 genes in a normal mouse brain. The Allen Brain Atlas, funded with $100 million in seed money from Microsoft co-founder **Paul Allen**, is freely available on the web at www.brain-map.org, providing an enormous mine of information for brain researchers.

The atlas was created using in situ hybridization to show where each gene is turned on in a series of thin tissue sections spaced evenly throughout the brain. It's overlaid on a "reference" atlas that demarcates the boundaries of all the significant brain structures.

One early finding of the project is that very few genes are turned on in only one region of the brain—paving the way for a better understanding the benefits and potential side effects of drug treatments.



Using the Allen Brain Atlas's 3-D visualization tool, Brain Explorer, one can view gene expression in the mouse brain for more than 21,000 genes, including mannosidase 1, alpha (top) and transmembrane protein 16B (bottom). These images are produced by quantifying raw colorimetric in situ hybridization data on sequential brain sections and mapping this information onto a common 3-D reference framework. Each sphere represents a volume of 100 μm³, and the size of an individual sphere is directly related to the density of labeled cells in that volume. Color coding indicates expression level, from low (blue-green) to high (red). Courtesy: Chinh Dang, Director of Technology at the Allen Institute for Brain Science.