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Government Embarks on Brain Map

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By GAUTAM NAIK and COLLEEN MCCAIN NELSON



Kelvin Ma for The Wall Street Journal

Harvard biologist George Church said a federally led project to decipher how the human brain works will "bring down the cost for everybody."

The U.S. government is planning a large-scale project that seeks to create the most comprehensive map of the human brain assembled so far, according to scientists involved in the project.

Scientists likened the Brain Activity Map effort to the Human Genome Project, the government-led initiative that helped decipher the human genetic code and provided a huge boost for the genetics industry.

The idea "is to organize a national effort to crack the problem" of how the brain functions at its deepest levels, and how various neurological ailments might be better treated, said John Donoghue, a neuroscientist at Brown University who is

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involved in the project.

The plan was earlier reported in the New York Times. Some funding is likely to be included in President [Barack Obama's](#) budget proposal next month.

In recent years, both public and private efforts have begun to document the basic wiring of the brain, with the goal of learning more about the mechanisms that might lie behind neurological disorders such as autism, schizophrenia and Parkinson's disease.

The National Institutes of Health is funding a five-year, \$40 million Human Connectome Project to look at connections between nerve cells and synapses. And the private Allen Institute for Brain Science is developing computational tools to map neural behavior, with \$300 million donated by [Microsoft Corp.](#)

[MSFT -0.11%](#) co-founder Paul G. Allen.

Another scientist involved in the government's planned effort, George Church of Harvard University, said the U.S. government and private institutions collectively spend about \$500 million annually on neuroscience. A federally led project, Dr. Church added, will help to "bring down the cost for everybody, [just as] by the end of the genome project we had brought down the sequencing and synthesis cost by a million-fold."

The new project aims to bring together theoreticians, experimentalists and data-storage experts who can pool resources, share data and accelerate the development of tools in brain research.

Mr. Obama referred to the plan in his State of the Union address, saying he wanted to "invest in the best ideas" and mentioning that "our scientists are mapping the human brain." The president has sought to counter Republican calls for smaller government by pointing to places where he thinks Washington's involvement is critical.

It wasn't clear how much funding the White House would seek for the project, which could also draw from existing federal and private funds. Several of the initiatives Mr. Obama described in his State of the Union involved relatively little new federal money or none at all—a recognition that a tight budget and congressional divides make it hard to create large programs from scratch.

Rafael Yuste, a Columbia University neuroscientist, said the idea for the project first took shape in September 2011. Since then, a small group of scientists has held three workshops and met with White House officials, he said.

Dr. Yuste said the project would span at least 15 years and allow scientists to "see the inner workings of the mind for the first time." One application might be to find new techniques to see how an epileptic seizure progresses through the brain and how it might be stopped.

Scientists say they need more powerful—and lower-cost—tools to apply to basic unanswered questions, such as how the brain stores information and how a thought emerges.

Dr. Donoghue said one goal for the new project might be to record the activity of thousands of neurons at a time, compared with current sensors that can only handle 100 or so.

Dr. Church said the project's longer-term goal wasn't just to map the brain

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Obama Golfs With Tiger Woods

Presidents get to hang with pretty much any professional athlete they want, and Barack Obama is taking full advantage of the perk during his long weekend in South Florida. Sunday, the president teed it up with Tiger Woods at Floridian Yacht and Golf Club in Palm City, Fla.

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anatomically, but functionally as well. "We don't just want to see the wires, but also the messages going over the wires," he said.

Write to Gautam Naik at gautam.naik@wsj.com and Colleen McCain Nelson at colleen.nelson@wsj.com

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