

BRAIN initiative seeks tools to understand human thought, behavior, consciousness

April 24 2013

The newly proposed scientific project to understand the most complicated 3 pounds of material in the world—the human brain—is the topic of an article in the current edition of *Chemical & Engineering News*, the weekly newsmagazine of the American Chemical Society, the world's largest scientific society.

In the article, Lauren Wolf, C&EN associate editor, focuses on the [Brain Research through Advancing Innovative Neurotechnologies \(BRAIN\)](#) initiative, previously known as the Brain Activity Map project, which President Barack Obama announced earlier in April. Sometimes compared to the Human Genome Project in its scope and potential impact on medicine, BRAIN would enlist teams of scientists to develop the technology for an unprecedented new understanding of how the brain works. It could establish the basis for new treatments for clinical depression, autism, schizophrenia, Parkinson's and other brain conditions.

The article explains the emerging realization that thoughts, memories, consciousness and brain disorders result from communication among networks of nerve cells, or neurons, in the brain. An estimated 80 billion of those cells with 100 trillion interconnections complicate the task of understanding brain activity. Until now, scientists have been able to study the activities of only a relative handful of neurons at a time. Taking the next big step in understanding the brain requires new tools, which BRAIN would supply, to listen to conversations among millions of neurons.

More information: [cen.acs.org/articles/91/i16/Ma... Brain-Onto-Mind.html](https://cen.acs.org/articles/91/i16/Ma...Brain-Onto-Mind.html)

Provided by American Chemical Society

Citation: BRAIN initiative seeks tools to understand human thought, behavior, consciousness (2013, April 24) retrieved 31 March 2023 from <https://medicalxpress.com/news/2013-04-brain-tools-human-thought-behavior.html>

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