The Role of Foundations and Scientific Societies in Supporting Frontier Research at Disciplinary Boundaries

Assembly of Science Officers Annual Meeting
American Institute of Physics

Robert W. Conn
President and CEO, The Kavli Foundation
March 24, 2016
The Kavli Foundation is dedicated to advancing science for the benefit of humanity, promoting public understanding of scientific research, and supporting scientists and their work.
Advance science for the benefit of humanity,

Support scientists and their work, and

Promote public understanding and appreciation of science
Understanding the brain through new tool development

Birth of new industries

Cross disciplinary research

Societal health

Kavli Prize

Theoretical Physics

Kavli Institutes

Nanoscience

Neuroscience

Kavli Meetings Program

Kavli Frontiers of Science (NAS)

Kavli Royal Society Centre

Kavli Pilots

Scientific Society Programs

Kavli Meetings and Lectures

Kavli AAAS Science Journalism Awards
Physicists Ready to Add Their BRAIN Power

By Michael Lucibella

Physicists are poised to play a major role in President Obama’s proposal to better understand the human brain, which he announced on April 2. The president proposed allocating $100 million for the initiative, to be divided among the National Institutes of Health, the National Science Foundation and the Defense Advanced Research Projects Agency (DARPA). Though the specific goals and scope of the project are still being determined, they will likely include developing new techniques to map and study the brain.

Scientists involved with shaping the BRAIN Initiative, short for Brain Research through Advancing Innovative Neurotechnologies, emphasized the interdisciplinary nature of the research.

"Many of the advances if not most of the advances, come from the physical sciences," said Michael Roukes, of the Kavli Nanoscience Institute at Caltech. He added that physicists are adept at "thinking about complex highly correlated systems of networks."

Roukes was part of the Kavli team that first suggested to the administration’s Office of Science and Technology Policy (OSTP) the idea for a project to map all of the neural connections in the human brain. Their original Brain Activity Map proposal, which the President highlighted in his State of the Union address in February, ultimately evolved into the White House’s BRAIN initiative.
Partnering with Scientific Societies to Promote Interdisciplinary Meetings and Public Outreach

The Kavli Foundation seeks to
• Catalyze emergent fields
• Support cross-disciplinary discussion – find gaps and opportunities
Philanthropy in American Society

*From Carnegie’s Famous Admonition of 1901 to the Gates-Buffett Giving Pledge of 2010 –*

*Giving Back is an American Cultural Imperative*

*And Today, New Wealth is Being Created at a Rate not seen in more than a Century*
Philanthropic Giving Over More than a Century Helps Underwrite Today’s Operating Budgets of Universities

<table>
<thead>
<tr>
<th>School</th>
<th>Endowment</th>
<th>Annual Payout (5%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Harvard University</td>
<td>$36,429,000,000</td>
<td>$1,821,000,000</td>
</tr>
<tr>
<td>2 Yale University</td>
<td>$23,859,000,000</td>
<td>$1,193,000,000</td>
</tr>
<tr>
<td>3 Stanford University</td>
<td>$21,466,000,000</td>
<td>$1,073,000,000</td>
</tr>
<tr>
<td>4 Princeton University</td>
<td>$20,576,000,000</td>
<td>$1,029,000,000</td>
</tr>
<tr>
<td>5 MIT</td>
<td>$12,425,000,000</td>
<td>$621,000,000</td>
</tr>
<tr>
<td>6 Texas A&amp;M University</td>
<td>$10,521,000,000</td>
<td>$526,000,000</td>
</tr>
<tr>
<td>7 University of Michigan</td>
<td>$9,604,000,000</td>
<td>$480,000,000</td>
</tr>
<tr>
<td>8 University of Pennsylvania</td>
<td>$9,582,000,000</td>
<td>$479,000,000</td>
</tr>
<tr>
<td>9 Columbia University</td>
<td>$9,223,000,000</td>
<td>$461,000,000</td>
</tr>
<tr>
<td>10 University of Notre Dame</td>
<td>$8,189,000,000</td>
<td>$409,000,000</td>
</tr>
</tbody>
</table>

America’s Universities Receive $35 Billion Annually For Basic Research, a Third of It from their own Resources.

U.S. Basic Research at Universities Funding by Source
Source: AAAS and NSF Science & Engineering Indicators 2016

- Federal $23B
- Non-Profit $3B
- Universities $9B

Constant 2009 Dollars (Billions)
Fiscal Year
Looking Ahead for Science
Six Founding Foundations

- Howard Hughes Medical Institute
- The Kavli Foundation
- Gordon & Betty Moore Foundation
- The Simons Foundation
- Alfred P. Sloan Foundation
- Research Corp. for Science Adv.

Science Philanthropy Alliance Goals

- Increase Philanthropic Support for Basic Science
- Work with American’s Research Universities and Private Research Institutions to Ensure Support for Basic Science is Strong
The Science Philanthropy Alliance will Make the Case
To Philanthropists on Behalf of Basic Science

History Suggests We can be Optimistic That Much
New Wealth will be Given Back for the Benefit of Society