

OPENING STATEMENT

Ranking Member Daniel Lipinski (D-IL)

Subcommittee on Research and Technology
House Committee on Science, Space, and Technology

“Exploring the Frontiers of Neuroscience Research”

July 31, 2013

Thank you Chairman Bucshon for holding this hearing and to all of the witnesses for being here.

I don't think there's anybody in this room who hasn't marveled at the complexity of the human brain. With that wonder also comes worry about the brain diseases that befall so many people, and that we all know could someday wreak havoc on our own lives. And as lawmakers responsible for making sure our returning servicemen and women are taken care of after they have bravely risked their own lives, we worry about the thousands who have returned from Iraq, Afghanistan, and previous conflicts with traumatic brain injury and long-term mental distress.

In April of this year, President Obama announced the BRAIN Initiative, an interagency collaboration between DARPA, NIH, and NSF to accelerate what we know about human brain function and its connection to behavior. Each of these agencies has important research activities that it can bring to the table. The NSF, for example, will help further research developing probes on a molecular scale that can map the activity of neural networks. They can also bring computer scientists to the task as well, to help understand the functions of the estimated 100 billion neurons and 100 trillion connections within the human brain.

As we take a broad look at federal support for neuroscience research in general, and the BRAIN Initiative in particular, I believe that it is valuable for the Members of this Committee to hear from experts who can speak to the roles of all key agencies, including DARPA and NIH. Three of the witnesses are highly qualified to speak to NIH's role, and Mr. McLoughlin has long been funded by DARPA. However, the only BRAIN Initiative agency wholly within this Committee's jurisdiction is the National Science Foundation. It is unfortunate that NSF was not invited to participate on today's panel, but I am especially grateful to Dr. Robinson for being here to help us better understand NSF's unique and important role in supporting neuroscience research.

The idea of connecting what's happening in our brain at the molecular level with how we feel, think, remember, and act is known as “integrating across scales”. We can bring to the neuroscience table all of the smart computer scientists, engineers, and mathematicians we can find. And we do need them. But if we don't also have the behavioral experts there to validate brain function models with what we know about actual human behavior, those models might not be worth the laptops they're written on.

As the one agency that funds basic research in all fields of science and engineering, including the social and behavioral sciences, integrating across scales is one of the strengths that NSF brings to the BRAIN Initiative. While none of the witnesses were asked to address educational needs and opportunities in neuroscience, this is also an area in which NSF leads the way. I have questions related to STEM education and I suspect some of my colleagues will as well.

Thank you again Chairman Bucshon for holding this hearing and I look forward to the testimony and discussion.