



## *Inventing the Future: Brain-Inspired Next-Generation Artificial Intelligence Congressional Briefing*

On September 10, 2025, the Congressional Neuroscience Caucus (CNC), in cooperation with the American Brain Coalition, American Academy of Neurology, American College of Neuropsychopharmacology, Simons Foundation, and Society for Neuroscience, hosted a virtual briefing to highlight how foundational neuroscience research informs the development of brain-inspired artificial intelligence (AI) platforms, how public-private partnerships can accelerate progress, and the potential of next-generation AI to advance human health.

Dr. Mark Rasenick, Chair of the American Brain Coalition's Board of Directors, provided opening remarks and introduced CNC Co-Chair, Representative Morgan Luttrell (R-TX), who shared personal experiences with brain injury and recovery. He stressed the importance of breaking down silos between academia, medicine, and technology and the need for information sharing. He highlighted the communication gap between scientists and policymakers and the necessity of computational tools to make sense of complex data. This is where AI plays an important role in analyzing vast datasets that would otherwise take lifetimes to interpret. He encouraged people to persist in their efforts, recognizing the critical role of neuroscientists and the impact of their work on society.



*Rep. Luttrell providing opening remarks.*



*Former Rep. Wexton providing keynote address.*

Dr. Natalia Rost, President of the American Academy of Neurology (AAN), underscored AAN's commitment to brain health through research, patient care, and public engagement. She then introduced former Congresswoman Jennifer Wexton (D-VA), highlighting her advocacy for brain health and her role in passing legislation such as the National Plan to End Parkinson's Act. Congresswoman Wexton shared her personal journey with progressive supranuclear palsy (PSP), describing the gradual onset of symptoms, the challenges and frustrations of obtaining a diagnosis, and the impact the disease has had on her mobility and ability to communicate. She highlighted how AI-powered voice technology has enabled her to continue public speaking and advocacy, even as her physical abilities declined. Congresswoman Wexton discussed her legislative efforts to advance brain health research and support for neurodegenerative diseases, emphasizing the importance of sharing her story to raise awareness, inspire others facing similar challenges, and drive meaningful change in policy and public understanding.

Director of the NIH BRAIN Initiative, Dr. John Ngai, discussed the mission of the Initiative to revolutionize neuroscience through discovery and innovation. He highlighted the prevalence of brain disorders, the complexity of the brain, and the critical role of AI in research, data analysis, and clinical care. Dr. Ngai noted that as we continue to understand more about the brain, it will inform the next generation of AI technologies.

Dr. Leigh Hochberg, Director of the Center for Neurotechnology and Neurorecovery at Massachusetts General Hospital, discussed the significant advances in implantable brain-computer interfaces, emphasizing the crucial role of AI in decoding brain activity and restoring communications, mobility, and independence for those with spinal cord injuries and neurodegenerative diseases. He explained that these interfaces are placed in or on the brain to record activity from regions responsible for specific functions. Dr. Sagi Perel, Director of Research at Google DeepMind, also highlighted the importance of understanding how the brain works in order to inform and improve AI models. Deeper knowledge of brain function can guide the development of more sophisticated and effective AI.

Dr. Alex Leow, Professor in Psychiatry and Bioengineering at the University of Illinois Chicago, shared her perspective as both a psychiatrist and applied mathematician, focusing on building AI systems for smartphones to understand how daily activities and behaviors influence brain health. Inspired by the introduction of fitness trackers, she developed an app that uses metadata from smartphone keyboard usage to naturalistically and unobtrusively conduct neuropsychological testing, providing a new way for individuals with lived experience to take control over their own mental and brain health.

Dr. Mala Murthy, Director of the Princeton Neuroscience Institute, described her lab's research on fruit flies, which exhibit complex behaviors such as social interactions and decision-making. She highlighted the groundbreaking importance of mapping the fruit fly brain, which contains about 140,000 neurons, to understand how these behaviors are created. Ultimately, this research aims to contribute to mapping the human brain.

The briefing concluded with the speakers collectively emphasizing the need to leverage AI technology and accelerate progress against neurological and psychiatric diseases.



*From left to right: Drs. Hochberg, Murthy, Perel, Leow, Ngai, Rasenick, and Rost.*



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Neuropsychopharmacology



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