

**Brain Research Through Advancing Innovative Neurotechnologies® (BRAIN)
Multi-Council Working Group (MCWG) Meeting
August 24th, 2022**

On August 24, 2022, the National Institutes of Health (NIH) *Brain Research Through Advancing Innovative Neurotechnologies®* (BRAIN) Initiative [Multi-Council Working Group \(MCWG\)](#) met virtually to discuss the current state of the BRAIN Initiative and the 8th Annual BRAIN Meeting.

In [opening remarks](#), John Ngai, PhD, director of the NIH BRAIN Initiative and chair of the MCWG, thanked Frances Jensen, MD, Henry (Hank) J. Greely, JD, and Katrina Gwinn-Hardy, MD, for their service on the MCWG. He welcomed David McMullen, MD, as the new Food and Drug Administration (FDA) federal *ex officio* on the MCWG. Dr. Ngai recapped some [recent NIH BRAIN events](#) and mentioned an upcoming workshop for trainees on navigating career transitions to faculty jobs. He also updated the group on the Plan for Enhancing Diverse Perspectives ([PEDP](#)), emphasizing its success and early incorporation into other NIH funding opportunity announcements outside of BRAIN. Dr. Ngai also discussed three transformative projects outlined in [The BRAIN Initiative® 2.0: From Cells to Circuits, Toward Cures report](#): 1) Organizing Resources for Brain Cell Type Access and Manipulation Across Species (cell type-specific armamentarium); 2) Phase III Brain Cell Census (parts list); and 3) Next-Generation Technologies for Brain Microconnectivity Analysis (wiring diagrams). These innovative projects were made possible by an increase in Congressionally appropriated funds for fiscal year 2021 and have already made an impact on neuroscience. For example, enabled by the BRAIN Initiative Cell Census Network ([BICCN](#)), part of the first transformative project, the [Seattle Alzheimer's Disease Brain Cell Atlas consortium](#) recently released a massive, open-source molecular dataset with transcriptomic, epigenetic, and neuropathological data from over 1.2 million brain cells from 84 human donors. This year, there have been 714 publications led by BRAIN-funded investigators at 117 institutions across the nation and internationally. Dr. Ngai highlighted two recent studies on translating Neuropixel probes, large-scale electrophysiology recording devices, to humans undergoing surgery^{1,2}. Lastly, he reminded the group of new funding opportunities for next-gen non-invasive imaging ([RFA-EB-22-001](#)), quantifying behavior ([RFA-MH-22-240](#)), research course development ([RFA-EY-21-003](#)), as well as current [training](#) and [diversity](#) programs.

The MCWG meeting continued with a presentation on the [8th Annual BRAIN Initiative Meeting](#) by Samantha White, PhD, chief of the National Institute of Neurological Disorders and Stroke Scientific and Public Engagement branch. This year, the meeting was rebranded to better include both BRAIN- and non-BRAIN-funded investigators, trainees, and affiliates. The theme was, “Open Science, New Tools.” Overall, an evaluation of meeting metrics showed that the virtual event was a great success, hosting approximately 2600 attendees across scientific disciplines, job sectors, and career stages, worldwide. Dr. White mentioned a shift in meeting programming, including removal of research highlight talks to allow opportunities for more symposia, trainee talks, and poster sessions. Dr. White also highlighted the [BRAIN Initiative Challenge](#) for teens focused on neuroethics and the [BRAIN Initiative Photo and Video Contest](#). Then she summarized meeting demographics, noting that only about 35% of registrants were funded by BRAIN (80% of whom received funding from the NIH). This may indicate an increased interest in the BRAIN Initiative by trainees, early career researchers, and/or others who have yet to acquire funding. Meeting registrants were from diverse fields of science, including engineering, physiology or

¹ Paulk, A. C., Kfir, Y., Khama, A. R., Mustroph, M. L., Trautmann, E. M., Soper, D. J., ... & Cash, S. S. (2022). Large-scale neural recordings with single neuron resolution using Neuropixels probes in human cortex. *Nature Neuroscience*, 25(2), 252-263.

² Chung, J. E., Sellers, K. K., Leonard, M. K., Gwilliams, L., Xu, D., Dougherty, M. E., ... & Chang, E. F. (2022). High-density single-unit human cortical recordings using the Neuropixels probe. *Neuron*.

systems biology, and psychology. Post-meeting survey results suggested that attendees were satisfied with the meeting overall and highly valued on-demand content for later viewing. MCWG members lauded the meeting and appreciated the lively poster sessions and many options for attendees to interact with presenters. They recommended replicating this in future virtual meetings. The group suggested tracking user engagement with on-demand content. They also considered ways to include people with brain disorders in future BRAIN meetings, potentially as part of human neuroscience research sessions. The full [BRAIN meeting summary](#) is available and [on-demand meeting content](#) is available until June 2023.

The MCWG meeting continued with an update on NEWG activities by Hank Greely, JD, director of Law and Biosciences at Stanford University and co-chair of the NEWG. Dr. Greely summarized NEWG presentations and discussions from the day prior, which primarily focused on a NEWG [workshop on continuing trial responsibilities](#) for participants of implanted neural device trials, a complex issue that impacts many individuals and entities, including trial participants, investigators, grantee institutions, device manufacturers, funders, and more. He mentioned other presentations about the Dana Foundation's efforts in neuroethics, science, and society, as well as emerging ethics themes arising from BRAIN-funded research.

The next MCWG meeting will be held on January 25, 2023, and a [videocast](#) will be available for live viewing and later archived.