

Brain Research through Advancing Innovative Neurotechnologies® (BRAIN)
Multi-Council Working Group (MCWG) Meeting
January 27th, 2021

On January 27, 2021, the National Institutes of Health (NIH) *Brain Research through Advancing Innovative Neurotechnologies® (BRAIN)* Initiative [Multi-Council Working Group \(MCWG\)](#) and [Neuroethics Working Group \(NEWG\)](#) met virtually to discuss ongoing BRAIN and NIH efforts in promoting and enhancing diversity, equity, and inclusion in neuroscience, and two concepts for funding.

[In opening remarks](#), John Ngai, PhD, Director of the NIH BRAIN Initiative and chair of the MCWG, first introduced a new working group member, Dan Sanes, PhD (New York University), who will serve as the National Institute on Deafness and Other Communication Disorders (NIDCD) representative to MCWG. Dr. Ngai thanked a former member for his service, David Tank, PhD (Princeton University), who was a member of the original BRAIN Advisory Committee to the NIH Director (ACD) Working Group and served for over six years on the MCWG as an at large member. Next, Dr. Ngai reminded the group of COVID-19 eligibility extensions for BRAIN K99/R00 grant applications and listed current NIH funding opportunities for COVID-19 research. He provided an update on [BRAIN 2.0](#) and noted the increase in Congressionally-appropriated funds for the NIH BRAIN Initiative in fiscal year 2021. These funds will accelerate the launch of three transformative projects: 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). As part of the efforts on these projects, a series of [workshops](#) will occur on brain connectivity, human brain cell census, and non-invasive neuroimaging technologies. He highlighted BRAIN scientific advancements, including a new genetically-encoded dopamine sensor for multiplex imaging and wireless recording and stimulation technology in freely-moving humans used to elucidate the neural basis of navigation. Lastly, in preparation for the presentations in and discussion for the day's meeting, Dr. Ngai noted a variety of recent efforts on enhancing scientific excellence and diversity in neuroscience, such as the NIH BRAIN Initiative's RFI on advancing scientific and workforce diversity ([NOT-MH-20-051](#)), the [NIH Prize for Enhancing Faculty Gender Diversity](#), the [Alba Declaration on Equity and Inclusion](#), and others.

Henry (Hank) T. Greely, JD, Director of Law and Biosciences at Stanford University and co-chair of the NEWG, summarized the NEWG meeting held the day prior. Dr. Greely mentioned a recent paper published in [Nature Medicine](#) on the ethical considerations of COVID-19-related changes to clinical research, stemming from last year's NEWG meetings and co-authored by NEWG co-chair Christine Grady, RN, PhD, along with NIH staff Nina Hsu, PhD, Saskia Hendriks, MD, PhD, and Khara Ramos, PhD. He summarized the findings from a portfolio scan of emerging ethical themes in BRAIN, which fell into two broad groups of potential ethical challenges: conducting research ethically; and the implications of research, tools, and technologies on individuals, groups, and society. Lastly, he recapped the NEWG's discussion on potential future workshop topics including data privacy, post-trial obligations, ensuring inclusivity, clinical trials across the lifespan, and non-human primate research.

Jay Churchill, PhD, Senior Advisor to the National Institute of Mental Health (NIMH) Director and Michelle Jones-London, PhD, Chief of the Office of Programs to Enhance Neuroscience Diversity (OPEN) at the National Institute of Neurological Disorders and Stroke (NINDS), and BRAIN Team Training, Inclusion, and Equity (TIE) co-leads, gave a presentation on Team TIE activities and future efforts. Dr. Churchill provided an overview of current and potential new awards to promote career development and diversity sponsored by BRAIN and the [NIH Blueprint for Neuroscience Research](#). He then highlighted current [BRAIN Initiative Advanced Postdoctoral Career Transition Award \(K99/R00\) recipients](#).

Next, Dr. Jones-London summarized a host of BRAIN Initiative diversity efforts; these include, encouraging applications for Research Supplements to Promote Diversity in Health-Related Research ([PA-21-071](#)), outreach events at conferences (e.g., [Annual Biomedical Research Conference for Minority Students](#) and [Society for Advancement of Chicanos/Hispanics and Native Americans in Science](#)), strategic targeting via partnering with grassroots campaigns (e.g., [BlackinNeuro](#)), and hosting peer-to-peer networking events for trainees. Finally, looking ahead, she recommended leveraging existing diversity programs such as the [NIH Blueprint Diversity Specialized Predoctoral to Postdoctoral Advancement in Neuroscience \(D-SPAN\)](#) award, facilitating summer research opportunities, promoting institutional change, and other diversity enhancing activities.

Marie Bernard, MD, Deputy Director of the National Institute on Aging (NIA) and acting NIH Chief Officer for Scientific Workforce Diversity, gave a presentation on diversifying the scientific workforce. Dr. Bernard highlighted how diversity leads to better outcomes. She summarized the results of several empirical studies in which diverse groups outperformed high-achieving and homogeneous groups. She also noted the current lack of diversity in biomedical research, especially in later scientific career stages. Dr. Bernard next discussed best practices for promoting diversity, such as reducing implicit bias and facilitating institutional and cultural change. She also mentioned ongoing NIH-supported diversity enhancing efforts, such as establishing the NIH Equity Committee, developing [scientific workforce diversity toolkits](#), and supporting programs such as the [NIH Distinguished Scholars Program \(DSP\)](#) and [Faculty Institutional Recruitment for Sustainable Transformation \(FIRST\)](#). Lastly, Dr. Bernard highlighted accomplishments of the [Diversity Program Consortium \(DPC\)](#), an NIH-supported network aimed to transform institutional culture and biomedical training and mentoring. Specifically, she noted the [National Research Mentorship Network \(NRMN\) grantsmanship coaching program](#)'s success in increasing NIH grant funding rates for participants. Next, the MCWG and NEWG discussed the role of BRAIN in promoting diversity, equity, and inclusion. Participants emphasized the importance of supporting early career opportunities (e.g., summer programs, post-bac fellowships) and partnerships between minority-serving and resource-rich institutions. Dr. Ngai noted BRAIN's ongoing focus on building diverse networks among trainees and faculty within the talent pool.

Next, NIH BRAIN Initiative staff presented two concepts for future funding opportunities. Neeraj Agarwal, PhD Program Director at the National Eye Institute (NEI), , and member of BRAIN Team TIE, presented a funding concept to establish short courses for neuroscience skills development. The goal of this concept is to facilitate the development of a skilled cadre of investigators with requisite knowledge and skills in neuroscience-related techniques, setting them up for future success. The courses will be designed for trainees and junior faculty, including those from diverse backgrounds. Dr. Agarwal overviewed possible course topics, which included computational analysis, neuroethics integration, data management/analysis, *in vivo* recording and modulation methods, and others. The MCWG noted the value in appealing to and recruiting course instructors and participants from diverse career stages, backgrounds, and geographic locations.

Douglas Kim, PhD, Program Director at NIMH, and member of BRAIN Team A (Brain Cells & Circuits Analysis), presented a second funding concept. Expanding upon a transformative project aimed to create a brain cell-type armamentarium ([RFA-MH-20-556](#)), this concept will build new infrastructure for reagent development, production, and use at minority-serving and Institutional Development Award ([IDeA](#))-eligible institutions. Importantly, it will also enhance the competitiveness of neuroscience applicants and foster partnerships between under-resourced and resource-rich institutions. MCWG

participants stressed the importance of ensuring that both types of institutions benefit from these funds and suggested leveraging existing state resources and/or interest in biotechnology development.

The meeting proceeded with a closed session of the MCWG members and federal staff to discuss funding plans for fiscal year 2021 awards. The next MCWG meeting will be held on May 20, 2021 and [videocast](#) will be available for live viewing and later archived.