The National Academies of SCIENCES ENGINEERING MEDICINE

Forum on NEUROSCIENCE and NERVOUS SYSTEM DISORDERS

Neuroscience Training: Developing a Nimble and Versatile Workforce—A Virtual Workshop Series

Topic #3: Diversity, Equity, and Inclusion in Neuroscience Training – Workshop Moderators and Panelists

January 25, 2021

Panelist Biographical Sketches

Lucas Cheadle, **Ph.D.**, is an Assistant Professor of neuroscience at Cold Spring Harbor Laboratory. Originally from the Chickasaw Nation in rural Oklahoma, Dr. Cheadle developed a passion for biomedical research as an undergraduate at Smith College. He later earned a PhD in neuroscience working with Dr. Thomas Biederer at Yale University and completed a postdoctoral fellowship in the laboratory of Dr. Michael Greenberg at Harvard Medical School. In addition to basic science, Dr. Cheadle is passionate about diversity and inclusion in neuroscience research and education.

Dr. Cheadle's work focuses on understanding how sensory experience shapes the development, plasticity, and function of the brain, with an emphasis on the roles of a specialized class of immune cells called microglia. His team merges genomic and transcriptomic approaches such as single-cell RNA-sequencing with functional assays such as high-resolution imaging of neurons and microglia in the brains of living mice. Using these approaches, the Cheadle lab characterizes the contributions of microglia to the experience-dependent remodeling of neural circuits in the postnatal brain. In the future, Dr. Cheadle hopes to turn these insights into novel therapeutic strategies for treating neurodevelopmental and psychiatric disorders.

Lori Chibnik, Ph.D., M.P.H., is a biostatistician and Assistant Professor with an appointment in the Department of Epidemiology at the Harvard T.H. Chan School of Public Health and the Department of Neurology at Massachusetts General Hospital. She received her M.P.H. in International Health and her Ph.D. in biostatistics from the Boston University where she worked on predictive modeling methods for disease risk. Over her career, she has developed and assessed predictive models for diseases such as autoimmune diseases, HIV and pre-natal screening and continues to apply her methods to complex diseases. Her current research focuses primarily on genetics and genomics of Alzheimer's disease and dementia with an emphasis on longitudinal cohorts and cognition. She serves as the co-lead of the Data and Statistics Core of the Massachusetts Alzheimer's Disease Research Center (MADRC). In addition to her research, she is internationally renowned for her training programs and innovative teaching techniques, having developed multiple courses in biostatistics for varied audiences, most recently a series specific to the needs of scientists in sub-Saharan Africa. Currently she directs the Global Initiative for Neuropsychiatric Genetics Education and Research (GINGER) program at the Harvard-Chan School and the Broad Institute of MIT and Harvard.

Lesia Crumpton-Young, Ph.D., is the Provost and Senior Vice President of Morgan State University. Dr. Crumpton-Young is the recipient of the U.S. Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring (PAESMEM) from President Barack Obama for her achievements in helping to diversify the STEM workforce in our nation. Dr. Crumpton-Young has a career in academia that spans 25 years. In that time, she has been recognized for her transformational leadership skills and excellent record of working with teams to achieve unprecedented success. She is hailed as a visionary who has worked successfully with faculty to create student-centric initiatives, restructure academic degree offerings, and institute curricula and courses to enhance the career marketability and vitality of graduates. She has also helped secure millions of dollars in funding for research initiatives, corporate partnerships, academic scholarships and new facilities. Dr. Crumpton-Young has held leadership positions at the University of Central Florida, Texas A&M University, Mississippi State University, the National Science Foundation and Tennessee State University, where she served as vice president for Research and Institutional Advancement and chief research officer. Dr. Crumpton-Young received her B.S., M.S., and Ph.D. in industrial engineering from Texas A&M University, where she holds the distinction of being the first African-American female to receive a Ph.D. in engineering. She has also completed an M.B.A. program at Tennessee State University in August 2019.

Yasmin Hurd, Ph.D., is the Director of the Addiction Institute within the Mount Sinai Behavioral Health System as well as the Ward Coleman Chair of Translational Neuroscience and Professor of Psychiatry and Neuroscience at the Icahn School of Medicine at Mount Sinai in New York. Dr. Hurd is an internationally renowned neuroscientist whose translational research examines the neurobiology of drug abuse and related psychiatric disorders. Her research exploring the neurobiological effects of cannabis and heroin has significantly shaped the field. Dr. Hurd's basic science research is complemented by clinical laboratory investigations evaluating the therapeutic potential of novel science-based strategies for the treatment of opioid addiction and related psychiatric disorders. Based on these high impact accomplishments and her advocacy of drug addiction education and health, Dr. Hurd was inducted into the National Academy of Medicine that complements other honors she has received in the field. In addition to her scientific roles, Dr. Hurd has had a strong focus on mentorship. At the Icahn School of Medicine, she has served as the Director of the M.D./Ph.D. Program, Co-Director to the Interdisciplinary Training in Drug Abuse Research (T32 post-doctoral training) providing mentorship to post-doctoral fellows, and the founding Chair of the Committee for Diversity of Biomedical Research which served to enhance the network, community and training of minority students and junior scientists. As a Black woman in science, Dr. Hurd has brought unique mentorship and perspectives for the career development of numerous underrepresented trainees.

Shane Liddelow, Ph.D., is a first generation college graduate who gained his Bachelors of Science (Hons) and Biomedical Science from the University of Melbourne, Australia, majoring in Neuroscience and Anatomy & Cell Biology. He received his Ph.D. in Pharmacology also from the University of Melbourne. His graduate work focused on the protective barriers of the brain during early development. As a postdoctoral fellow in the lab of Ben Barres at Stanford University he showed that one form of reactive astrocyte is induced by factors released by microglia. These reactive astrocytes release a toxic factor that kills specific subtypes of neurons and are present in brains of patients with a range of neurodegenerative diseases. In 2018 he started his own lab at NYU School of Medicine and has continued to investigate the role of astrocytes in health and disease, while also actively speaking out in support of equity, diversity, and mentorship – particularly for those trainees with minimal interaction with the academic community. Shane was a recipient of the NHMRC (Australia) CJ Martin Training

Award (2012-2016), the Glenn Foundation award for Aging in 2016, and was named a STATNews Wunderkind in 2017. In 2019 the Alzheimer's Association awarded him the Inge Grundke-Iqbal Award for Alzheimer's Research for the most impactful study published in Alzheimer's research during the previous two calendar years. In 2020 he was awarded the David Hague Early Career Investigator of the Year Award by Alzheimer's Research UK. He sits on the editorial boards of Glia, Cell Reports, and the Scientific Advisory board of AstronauTx Ltd.

Mahmoud Bukar Maina, Ph.D., is a Research Fellow in Sussex Neuroscience at the University of Sussex, UK and Outreach Coordinator for the higher education NGO - TReND in Africa. He obtained a BSc in Human Anatomy from the University of Maiduguri, Nigeria, MSc in Cellular and Molecular Neuroscience and PhD in Neuroscience, both from the University of Sussex, UK. Dr. Maina's research focuses on understanding the basic mechanism of disease in neurodegenerative diseases, with a focus on Alzheimer's disease. Dr. Maina is also passionate about promoting science in Africa, especially Neuroscience. He has published articles about Neuroscience in Africa and organized workshops to train African neuroscientists. He is the founder of Science Communication Hub Nigeria and the African Science Literacy Network aiming to enhance access to science role models and public understanding of science. For his work, he has received numerous awards, including the Royal Society of Biology Science Communication Award in 2017 and New England Biolabs Passion for Science Humanitarian Duty Award in 2019. In 2020, he was endorsed by the Royal Society as an exceptionally promising scientist.

Husseini K. Manji, M.D., FRCPC, is Global Head, Johnson & Johnson (J&J) Science for Minds. He previously was Global Therapeutic Head for Neuroscience at Janssen R&D, LLC, a J&J pharmaceutical company. Before joining J&J, Dr. Manji was Chief of the Laboratory of Molecular Pathophysiology at the National Institutes of Health (NIH) and Director of the NIH Mood and Anxiety Disorders Program, the largest program of its kind in the world. Dr. Manji's research has helped to conceptualize neuropsychiatric disorders as genetically influenced disorders of synapses and circuits and has prompted the investigation of novel therapeutics for refractory patients. His work led to the FDA, Canada and EC approval of the first novel antidepressant mechanism in decades, SPRAVATO® (esketamine) nasal spray for adults with treatment-resistant major depressive disorder. Dr. Manji has received numerous prestigious awards, is Visiting Professor at Duke University, Honorary Fellow at Oxford University, member of the World Dementia Council, member of the Scientific Advisory Board of the Stanley Center at the Broad Institute of MIT and Harvard, Member of the World Economic Forum, Global Futures Council and Board of Trustees, McLean Hospital.

Bianca Jones Marlin, Ph.D., is an Assistant Professor of Psychology and Neuroscience at Columbia University's Zuckerman Institute. She is a neuroscientist and was a postdoctoral researcher at Columbia University in the laboratory of Nobel Laureate Dr. Richard Axel. Dr. Marlin investigates transgenerational epigenetic inheritance, or how traumatic experiences in parents affect the brain structure of their offspring. She holds a Ph.D. in neuroscience from New York University, and dual bachelor degrees from St. John's University, in biology and adolescent education. As a graduate student, her research focused on the vital bond between parent and child, and studied the use of neurochemicals, such as the "love drug" oxytocin, as a treatment to strengthen fragile and broken parent-child relationships.

Dr. Marlin's research has been featured in the Los Angeles Times, The Guardian, Scientific American, and Discover Magazine's "100 Top Stories of 2015."

Dr. Marlin aims to utilize neurobiology and the science of learning to better inform both the scientific and educational community on how positive experiences dictate brain health, academic performance, and social well-being.

Carolyn Rodriguez, M.D., Ph.D., is Associate Dean for Academic Affairs, Stanford University School of Medicine, Associate Chair for Inclusion and Diversity in the Department of Psychiatry and Behavioral Sciences at Stanford University, and a Consultation-Liaison Psychiatrist at the Palo Alto Veterans Affairs. Dr. Rodriguez leads studies investigating the brain basis of severe mental disorders. Her landmark clinical trials pioneer rapid-acting treatments for illnesses including Obsessive-Compulsive Disorder (OCD). As the Director of the Translational Therapeutics Lab and Associate Professor in the Department of Psychiatry and Behavioral Sciences, Dr. Rodriguez has developed methods to map human brain circuit dysfunction in real time. Her NIH-, foundation-, and donor-funded mechanistic and clinical efficacy studies span targeted glutamatergic and opioid pathway pharmacotherapy, non-invasive brain stimulation, and psychotherapy for OCD, Posttraumatic Stress Disorder (PTSD), and hoarding disorder. Dr. Rodriguez also serves as Deputy Editor of The American Journal of Psychiatry, member of the Research Council of the American Psychiatric Association, member of Brain & Behavior Research Foundation Scientific Council, and Scientific and Clinical Advisory Board member of the International OCD Foundation. She has won several national awards, including the Presidential Early Career Award for Scientists and Engineers (PECASE). The PECASE recognizes investigators who are pursuing bold and innovative projects at the early stages of their careers and is considered one of the highest honors in scientific research. Carolyn presented her research at the World Economic Forum in Davos, and her work has been highlighted by organizations including NPR, PBS, New York Times, ABC News, NBC News, Newsweek, and Time.com. She contributes articles to Harvard Business Review and Huffington Post to share scientific findings with the public.

Dr. Rodriguez received her B.S. in Computer Science from Harvard University, followed by a Ph.D. in Neuroscience and Genetics from Harvard Medical School and an M.D. from Harvard Medical School-M.I.T. Born in San Juan, Puerto Rico, she now lives with her husband and three children in Palo Alto.

Erin Schuman, Ph.D., is a neurobiologist who studies the cell biological mechanisms that underlie information processing and storage in neural circuits. In particular, she has contributed to our understanding of how proteins are synthesized locally within neuronal processes. Dr. Schuman was born and raised in Southern California. After completing her B.A. in Psychology at the University of Southern California, she received her Ph.D. in Neuroscience from Princeton University in 1990. She conducted postdoctoral studies in the Department of Molecular and Cellular Physiology at Stanford University. In 1993, she was appointed to the Biology Faculty at the California Institute of Technology (Caltech). She was also Howard Hughes Medical Institute Investigator from 1997-2009. In 2009, she moved to Frankfurt, Germany to found the Department of Synaptic Plasticity at the Max Planck Institute for Brain Research.

She received several awards and grants, including the Pew Scholars Award and the Beckman Young Investigator Award. She also received the Society for Neuroscience's Salpeter Lifetime Achievement (2018), the FENS-Kavli-ALBA Diversity Prize (2020), and the Louis-Jeantet Prize for Medicine (2020). She is an elected member of the European Molecular Biology Organization (EMBO), the German Academy of Sciences Leopoldina and the US National Academy of Sciences.