Novel Molecular Targets in Mood Disorders and Psychosis—A Virtual Workshop
March 8-9, 2021

Workshop Speaker Biographical Sketches

Linda Brady, Ph.D. (Workshop Chair), serves as the Director of the Division of Neuroscience and Basic Behavioral Science at the National Institute of Mental Health (NIMH). In this role, she provides scientific, programmatic, and administrative leadership for an extramural research program portfolio in basic neuroscience to support NIMH's mission of transforming the understanding and treatment of mental illnesses. Dr. Brady has directed programs in neuropharmacology, drug discovery, and clinical therapeutics and organized Consortia focused on ways to accelerate the development and clinical application of radiotracers in clinical research. She has provided leadership for the National Cooperative Drug/Device Discovery/Development Groups for the Treatment of Mental Disorders and First in Human and Early Stage Clinical Trials of Novel Investigational Drugs or Devices for Psychiatric Disorders initiatives. Dr. Brady serves as co-chair of the Neuroscience Steering Committee of the Biomarkers Consortium, a public-private research partnership of the Foundation for the National Institutes of Health (FNIH) that focuses on discovery, development, and qualification of biological markers to support drug development, preventive medicine, and medical diagnostics. She serves as co-chair of the Steering Committee for the Accelerating Medicines Partnership – Schizophrenia, a public-private partnership to generate tools to improve success in developing early stage interventions for patients who are at risk of developing schizophrenia. She is also a member of the National Academies Forum on Drug Discovery, Development, and Translation. Dr. Brady was trained in pharmacology and neuroscience. She completed her Ph.D. at Emory University School of Medicine, followed by post-doctoral work and research positions at the Uniformed Services University of the Health Sciences and the NIMH Intramural Research Program. She is the author of more than 70 peer reviewed scientific publications and is a member of the Society for Neuroscience and a Fellow and President of the American College of Neuropsychopharmacology. Dr. Brady has received NIH Director's Awards and NIH Merit Awards in recognition of her activities in biomarker development and drug development for mental disorders.

Paul Appelbaum, M.D. is the Elizabeth K. Dollard Professor of Psychiatry, Medicine, and Law, and Director, Center for Law, Ethics and Psychiatry, Department of Psychiatry, Vagelos College of Physicians and Surgeons of Columbia University; a Research Psychiatrist at the NY State Psychiatric Institute; and an affiliated faculty member, Columbia Law School. He directs Columbia's Center for Research on Ethical, Legal, and Social Implications of Psychiatric, Neurologic, and Behavioral Genetics, and heads the Clinical Research Ethics Core for Columbia's Clinical and Translational Science Award program. He is the author of many articles and books on law and ethics in clinical practice and research, including four that were awarded the Manfred S. Guttmacher Award from the American Psychiatric Association and the American Academy of Psychiatry and the Law. Dr. Appelbaum is Past President of the American Psychiatric Association (APA), and of the American Academy of Psychiatry and the Law. He has twice served as Chair of the APA Council on Psychiatry and Law, and of the APA Committee on Judicial Action, and now chairs the APA's DSM Steering Committee. He was a member of the MacArthur Foundation Research Networks on Mental Health and the Law and on Mandatory Outpatient Treatment, and was a Network Scholar for the Network on Neuroscience & Law. Dr. Appelbaum has received the APA's Isaac Ray Award for "outstanding contributions to forensic psychiatry

and the psychiatric aspects of jurisprudence," was the Fritz Redlich Fellow at the Center for Advanced Study in the Behavioral Sciences, and has been elected to the National Academy of Medicine. Dr. Appelbaum is a graduate of Columbia College, received his M.D. from Harvard Medical School, and completed his residency in psychiatry at the Massachusetts Mental Health Center/Harvard Medical School in Boston.

Alan Breier, Ph.D., has led clinical and research teams focused on psychotic disorders. His research has focused on pathophysiology and innovative therapeutics for these illnesses. As Chief of the Outpatient Research Program at the Maryland Psychiatric Research Center (MPRC), Dr. Breier directed a research focused outpatient clinic that offered a full complement of clinical services for individuals with psychotic disorders. There, his team developed a brain imaging program utilizing positron emission tomography (PET) and magnetic resonance imaging (MRI) to examine cortical circuits in schizophrenia. At MPRC, Dr. Breier was PI of a double-blind clinical trial of clozapine in partial responsive outpatients (NIMH R01 MH45074). As Chief of the Section of Clinical Studies, NIMH Intramural Program, Dr. Breier supervised the inpatient research unit that provided clinical care for patients participating in research studies. At NIMH, Dr. Breier led a team that developed a novel PET paradigm to quantify in vivo synaptic dopamine changes, and applied this method to numerous questions related to brain dysfunction and treatment responses in schizophrenia. As a Vice-President and Chief Medical Officer at Eli Lilly and Company, Dr. Breier was responsible for the clinical biomarker development programs and all global early phase clinical trials, and thus gained extensive experience in the design and conduct of studies to assess novel therapeutics. He also led the olanzapine product team which was responsible for the development and global registration of new line extensions and indications for olanzapine. In 2008, as Professor of Psychiatry and Vice-Chair for Clinical Research at Indiana University School of Medicine, Dr. Breier founded and currently directs the Indiana University Psychotic Disorders Program (IUPDP) and the Prevention and Recovery Center for Early Psychosis (PARC). PARC has a SAMHSA-funded coordinated special care (CSC) program for young people at the onset of psychotic disorders. In addition to its commitment to clinical service, PARC is a dedicated training (6-8 psychiatry residents per year) and clinical research center (over 20 independent research protocols). PARC research included: a comparative effectiveness trial of CSC-TH versus CSC standard clinic-based treatment; randomized trial of meta-cognitive therapy; randomized trial of repetitive trans-cranial stimulation (rTMS); and several double-blind, randomized pharmacotherapy trials (e.g., n-acetyl cysteine, estrogen receptor beta agonist). Under his direction, PARC led a 12-site, double-blind trial of the antiviral medication valacyclovir for cognitive impairment in early phase psychosis. Dr. Breier is Co-PI of an ongoing NIH Human Connectome study in early phase psychosis which employs state-of-the-art multimodal MRI (U01MH109977). Also, he is PI of the NIMH sponsored Academic-Community EPINET which is comprised of six academic sites and is conducting a randomized control trial comparing CSC treatment delivered through telehealth versus the clinic based model (1R01MH120588-01A1). His team founded the first clinical high risk (CHR) program in Indiana called PARC-iCARE. Since 2015, Dr. Breier has been Chief Clinical Advisor to Karuna Therapeutics which is advancing a muscarinic M1/M4 preferring agonist for schizophrenia and other neuropsychiatric conditions.

György Buzsáki, Ph.D., is the Biggs Professor of Neuroscience at New York University. His main focus is "neural syntax", i.e., how segmentation of neural information is organized by the numerous brain rhythms to support cognitive functions. He is among the top 1% most-cited neuroscientists, elected member of the National Academy of Sciences USA, Academiae Europaeae and the Hungarian Academy of Sciences. He sits on the editorial boards of several leading neuroscience journals, including Science and Neuron, honoris causa at Université Aix-Marseille, France and University of Kaposvar, Hungary and University of Pécs, Hungary. He is a co-recipient of the 2011 Brain Prize and the recipient of the 2020 Ralph Gerard Award

(SFN). (Books: G. Buzsáki, Rhythms of the Brain, Oxford University Press, 2006; The Brain from Inside Out, OUP, 2019)

Carla Canuso, M.D., is the Senior Director of Clinical Development at Janssen Research and Development. Currently she is the clinical leader of the intranasal esketamine development program in patients with major depression at imminent risk for suicide (MDSI). Since joining Johnson & Johnson in 2002, Dr. Canuso has worked on Phase 2-4 compounds for the treatment of depression, suicidality, schizophrenia, schizoaffective disorder, bipolar disorder, anxiety and epilepsy. She led the first registration program for the treatment of schizoaffective disorder, resulting in the only FDA and EMEA approval for this condition. She has held positions within research and development, medical affairs and neuroscience external innovation. Dr. Canuso her Bachelor of Science from the University of Pennsylvania and is a cum laude graduate of the Medical College of Pennsylvania. She completed her psychiatry training at the University of Chicago and a fellowship in schizophrenia research at the Massachusetts Mental Health Center. She then joined the faculty at Harvard Medical School where she held several positions including medical director of the Commonwealth Research and Evaluation Unit. She remains active within the psychiatry research community and currently serves as the president of the International Society for CNS Trials and Methodology. She is a member of the American Psychiatric Association, the American Society of Clinical Psychopharmacology and the Society of Biological Psychiatry. Dr. Canuso has also volunteered for numerous nonprofit organizations to strengthen education and prevent suicide.

Ashley Clayton, MA, is a Research Associate at the Family Violence Research Program in the Sullivan Lab. Trained in community psychology, Ashley has developed and evaluated various community-based mental health interventions. Ashley ventured into the field of community psychology through a determination to use her first-hand experience with mental illness for good and her dedication to social justice. Ashley has extensive training in qualitative and quantitative research, with particular expertise in community-based participatory research, questionnaire development, and stigma. She is a mental health activist and has published numerous research papers on the social inclusion of individuals living with severe mental illness, maternal mental health, recovery-oriented and person-centered care, and healthcare narratives and essays. She is the Visual Arts Editor of *The Perch,* an Arts & Literary Journal published by Yale's Program for Recovery & Community Health (PRCH).

Robert Davis, Ph.D., has served as Senior Vice President, Chief Scientific Officer since November 2015. Previously, Dr. Davis served as President and CEO of 3-D Pharmaceutical Consultants, providing consulting services to the Company from December 2005 to November 2015. From December 2000 until November 2005, Dr. Davis served as the Executive Vice President, Research and Development at ACADIA Pharmaceuticals. From January 1994 until October 2000, Dr. Davis held various positions at MitoKor, a development stage biotechnology company focused on the design and development of drug therapies for mitochondrial diseases, serving at various times as its President, Chief Executive Officer, and Chief Scientific Officer. Earlier, Dr. Davis held various positions at Parke-Davis Pharmaceutical Research, Warner-Lambert. Earlier in his career, he participated in the discovery and development of tacrine hydrochloride, the first drug approved for treating Alzheimer's disease; gabapentin, the first drug approved for treating neuropathic pain; and pimavanserin, the first drug approved for the treatment of hallucinations and delusions associated with Parkinson's disease psychosis.

Tiffany Farchione, M.D. (Planning Committee), is the Director of the Division of Psychiatry in the Office of Neuroscience at the US Food and Drug Administration. She received her medical degree from Wayne State University in Detroit, Michigan, and completed adult residency and child & adolescent fellowship training at

the University of Pittsburgh's Western Psychiatric Institute and Clinic. Dr. Farchione is board certified in both general and child & adolescent psychiatry. Prior to joining FDA in 2010, Dr. Farchione was affiliated with the University of Pittsburgh Medical Center, and was on the faculty of the University of Pittsburgh. As the Director of the Division of Psychiatry, Dr. Farchione is involved in the oversight of new drug review for all psychiatric drug development activities conducted under investigational new drug applications, and the review of all new drug applications and supplements for new psychiatric drug claims.

Gabriella Gobi, M.D., Ph.D., is a Professor in the Department of Psychiatry, McGill University and Staff Psychiatrist at the Mood Disorder Clinic of the McGill University Health Center. Dr. Gobbi leads a laboratory of basic science (Neurobiological Psychiatry Unit). Her research focuses on drug discovery for mental health disorders and spans from bench to bedside, bridging the gaps between fundamental and clinical research in mental health.

Joshua Gordon, M.D., Ph.D., received his MD/PhD degree at the University of California, San Francisco and completed his Psychiatry residency and research fellowship at Columbia University. He joined the Columbia faculty in 2004 as an Assistant Professor in the Department of Psychiatry where he conducted research, taught residents, and maintained a general psychiatry practice. In September of 2016, he became the Director of the National Institute of Mental Health. Dr. Gordon's research focuses on the analysis of neural activity in mice carrying mutations of relevance to psychiatric disease. His lab studies genetic models of these diseases from an integrative neuroscience perspective, focused on understanding how a given disease mutation leads to a behavioral phenotype across multiple levels of analysis. To this end, he employs a range of systems neuroscience techniques, including in vivo anesthetized and awake behaving recordings and optogenetics, which is the use of light to control neural activity. His work has direct relevance to schizophrenia, anxiety disorders, and depression. Dr. Gordon's work has been recognized by several prestigious awards, including the The Brain and Behavior Research Foundation – NARSAD Young Investigator Award, the Rising Star Award from the International Mental Health Research Organization, the A.E. Bennett Research Award from the Society of Biological Psychiatry, and the Daniel H. Efron Research Award from the American College of Neuropsychopharmacology.

David Gray, Ph.D. (Planning Committee), is the Vice President of Chemistry at Cerevel Therapeutics in Boston, MA. After obtaining a Ph.D. in organic chemistry at The Scripps Research Institute, he began his drug discovery career as a medicinal chemist at Pfizer where his early research focused on the discovery of novel compounds that leveraged developing concepts of functional selectivity and state-dependent activation to more precisely modulate GPCRs and transporter targets. He then transitioned to leading research teams in CNS biology and clinical development. In support of compound identification efforts, his research group focused on physiological- and human-relevant assay development and translational neuroscience in the areas of depression, schizophrenia, Alzheimer's and Parkinson's. He has played a major role in advancing innovative and patient-centric clinical development strategies, including device-based clinical assessments, remote clinical assessments, and digital patient reported outcomes. Dr. Gray has become an advocate for effectively incorporating the patient voice into early research and for leveraging technology to increase the throughput of preclinical and clinical research efforts. He is active in several patient and research communities and has over 50 peer reviewed publications spanning a wide variety of scientific disciplines. During the past eight years, Dr. Gray has been spearheading clinical programs aimed to create improved motor symptom therapies in Parkinson's disease and treatments for specific cognitive and motivational deficits associated with schizophrenia and other CNS diseases. He led the early research and then the clinical development of a series of D1 partial agonists which include tavapadon, currently in Ph3. He joined the CNS-focused drug development company Cerevel Therapeutics to advance their

portfolio of clinical and preclinical programs. Over the past eight years, Dr. Gray has advanced clinical-stage research programs based on highly selective modulation of dopaminergic circuitry in specific brain regions. He led the early research and clinical development of a series of D1 partial agonists, including *tavapadon*, which is currently in Phase 3 for Parkinson's Disease. Continual advances in the understanding of disease-relevant circuitry from the broader field of brain research suggest that pharmacotherapies with a high degree of receptor subtype and functional selectivity will lead to improved motor symptom therapies in Parkinson's disease, much needed advancements in the pharmacologic treatment of addiction, and strategies to alleviate specific cognitive and motivational deficits associated with CNS diseases. Dr. Gray joined the CNS-focused drug development company, Cerevel Therapeutics, to advance their portfolio of clinical and preclinical programs.

Magali Haas, M.D., Ph.D., M.S.E. (Planning Committee), is Chair, CEO and President of Cohen Veterans Bioscience, a non-profit brain research organization based in New York City whose mission is to fast-track diagnostics and therapeutics to advance precision brain health. Magali has over 15 years of pharmaceutical executive experience, predominantly at Johnson & Johnson, where she assumed broad end-to-end development leadership roles in early & late stage neuroscience clinical development, translational medicine, diagnostics and integrative solutions. To pioneer new approaches for precision therapeutics for brain health, she founded Orion Bionetworks in 2012, which was transformed to Cohen Veterans Bioscience in 2015, while also serving as founding Chief Science and Technology Officer for One Mind for Research. She serves on several advisory boards including Alto Neurosciences, Partnership for Assessment and Accreditation of Scientific Practice, VirtualBrainCloud, Krembil Centre for Neuroinformatics and IMEC for nanoelectronics. Magali earned her BS in bioengineering from the University of Pennsylvania, an MS in biomedical engineering from Rutgers University, and her MD and PhD in neuroscience with distinction from Albert Einstein College of Medicine.

Stuart Hoffman, Ph.D. (Planning Committee), is the Scientific Program Manager for the Brain Injury portfolio at the Department of Veterans Affairs, which includes traumatic brain injury (TBI) and stroke. Dr. Hoffman received his doctoral degree in behavioral and molecular neuroscience at Rutgers University in 1995 and completed his postdoctoral training in pharmacology at Virginia Commonwealth University's medical campus in 1997. Prior to accepting this position with VA, he was an assistant professor in the Department of Emergency Medicine at Emory University. Dr. Hoffman was also faculty in both the graduate and undergraduate neuroscience programs at Emory University, where he co-developed and directed a multidisciplinary course on neurotrauma. He was previously the Research Director for the Defense and Veterans Brain Injury Center in Johnstown, Pennsylvania. Dr. Hoffman has more than 24 years of experience and has authored over 45 peer-reviewed publications in translational research on neuroprotection and recovery of function after brain injury. Dr. Hoffman has research experience in the following brain injury areas: in vitro TBI models, animal models of TBI, development of animal rehabilitation models, rodent brain ischemia models, translational drug development for neuroprotection, and clinical neurorehabilitation research.

Kenneth Koblan, Ph.D., is the Chief Scientific Officer at Sunovion, which is focused on the innovative application of science and medicine to help people with serious psychiatric, neurological and respiratory conditions. Dr. Koblan has 30 years of experience in the biopharmaceutical industry, and has authored over 100 peer reviewed scholarly articles and holds numerous patents. Dr. Koblan oversees a team of clinical research scientists with expertise in imaging, modeling and simulation, clinical pharmacology and bioinformatics applied to the development of new medical therapies. Sunovion is heavily invested in meeting unmet medical needs, applying innovative AI and machine learning approaches in the

area of neurobiology and working in research collaborations worldwide. Dr. Koblan received his PhD in Biochemistry from Johns Hopkins University and his Bachelor of Science degree in Biology from the Massachusetts Institute of Technology (MIT).

John Krystal, M.D. (Planning Committee), is a leading expert in the areas of alcoholism, post-traumatic stress disorder, schizophrenia, and depression. His work links psychopharmacology, neuroimaging, molecular genetics, and computational neuroscience to study the neurobiology and treatment of these disorders. He is best known for leading the discovery of the rapid antidepressant effects of ketamine in depressed patients. He is a member of the U.S. National Academy of Medicine. He also serves in a variety of advisory and review capacities for NIAAA, NIMH, Wellcome Trust, Brain and Behavior Research Foundation, the Broad Institute, and the Karolinska Institutet. Dr. Krystal previously served on the National Alcohol Abuse and Alcoholism Advisory Council (NIAAA), the Department of Defense Psychological Health Advisory Committee, and the NIMH Board of Scientific Counselors (chair, 2005-2007). He has led the American College of Neuropsychopharmacology (president, 2012), and International College of Neuropsychophamacology (president, 2016-2018). Currently, he is co-chair of the Neuroscience Forum (NeuroForum) of the National Academies of Sciences, Engineering, and Medicine, a member of the NIMH National Mental Health Advisory Council, and he edits the journal, Biological Psychiatry (impact factor: 11.982).

Carlos Larrauri, MSN, APRN, PMHNP-BC, FNP-BC (Planning Committee), serves on the Board of Directors for the National Alliance on Mental Illness and NAMI Miami-Dade County. Diagnosed with schizophrenia at 23 years of age, access to affordable health care, community-based treatments, and early intervention afforded him the best opportunity for recovery. Mr. Larrauri is board certified as a Family Nurse Practitioner and Psychiatric Mental Health Nurse Practitioner, and formerly lectured at the University of Miami and Miami Dade College. Mr. Larrauri is currently pursuing a legal education at the University of Michigan. He aspires to interface clinical practice, health policy, and research, to reduce health inequities for people living with mental illness.

Mason Marks, M.D., J.D., is an Assistant Professor at Gonzaga University School of Law. He is the Edmond J. Safra/Petrie-Flom Center Joint Fellow-in-Residence at Harvard University and an Affiliated Fellow at the Information Society Project at Yale Law School. At Gonzaga, Professor Marks teaches Health Law, Constitutional Law, Drug Law and Policy, and Law and Artificial Intelligence. His research focuses on the intersections of health law, technology, data protection, and FDA regulation. He has presented his work at schools of law and medicine including Harvard, Yale, Oxford, Stanford, the University of Washington, and the University of California, San Francisco. His academic scholarship has been published or is forthcoming in the *Yale Journal of Law and Technology*, the *U.C. Irvine Law Review*, the *Administrative Law Review*, and the *NYU Journal of Legislation and Public Policy*. Professor Marks has written essays on law and technology for the Washington Post, the Los Angeles Times, the Guardian, Slate, Wired, Vice News, the Hill, the Seattle Times, and the Houston Chronicle. He is a regular contributor to Harvard Law School's Bill of Health and Stanford Law School's RegTrax Initiative on blockchain regulation. His research has been featured by the New York Times, NPR's All Things Considered, Radio Boston, and German Public Radio. Professor Marks received his B.A. in biology from Amherst College, his M.D. from Tufts University School of Medicine, and his J.D. from Vanderbilt Law School. After law school, he practiced intellectual property law in San Francisco where he advised clients on securing and defending patent rights. After transitioning into academia, he worked as a research scholar at NYU Law School's Information Law Institute and a visiting fellow at Yale Law School's Information Society Project.

Jamie Maguire, Ph.D., performs research that focuses on the underlying neurobiology of affective disorders. Her preclinical work identified positive allosteric modulators of GABAA receptors as novel treatments for postpartum depression, laying the foundation for the development of neurosteroid analogs by SAGE Therapeutics, leading to the FDA approval of the first treatment specifically for postpartum depression. Dr. Maguire's research explores factors increasing vulnerability to mood disorders and the mechanisms mediating the anxiolytic and antidepressant effects of neurosteroids in an effort to understand the transition between affective states. Research in the Maguire lab focuses on the relationship between network and behavioral states, exploring the mechanisms through which risk factors increase vulnerability to unhealthy network and behavioral states and the mechanisms whereby effective treatments restore the healthy network and behavioral states. This work has not only led to the identification of novel targets for the next generation of treatments for mood disorders but may also help us fundamentally understand the episodic nature of mood disorders. Dr. Maguire earned her undergraduate degrees from The University of Pittsburgh and her Ph.D. in neuroscience from The George Washington University. She completed a postdoctoral fellowship at the University of California, Los Angeles (UCLA) under the mentorship of Dr. Istvan Mody. She has been a faculty member in the Neuroscience Department at Tufts University School of Medicine since 2010 and has recently been named the Kenneth and JoAnn G. Wellner Professor in Neuroscience. Dr. Maguire serves on the Scientific Advisory Board for SAGE Therapeutics.

Husseini Manji, M.D. (Planning Committee), 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, and member of the World Economic Forum, Global Futures Council and Board of Trustees, McLean Hospital.

Sharon Mates, Ph.D. (Planning Committee), has been the Chair of the board of directors, President and Chief Executive Officer of Intracellular Therapies Inc. (ITI) since June 2002. Dr. Mates co-founded ITI in May 2002. Prior to co-founding ITI, Dr. Mates was a co-founder of Functional Genetics, and served as its Chairman and Chief Executive Officer from December 2000 until August 2003. From 1989-1998 Dr. Mates was the President and a board member of North American Vaccine Inc. and its predecessor companies. She has served on several boards, and recently completed a board membership and a two-year chairmanship of the Board of the New York Biotechnology Association. Dr. Mates has also served on the Advisory Council of the Center for Society and Health at the Harvard School of Public Health, the Board of Visitors of the Biotechnology Institute of the University of Maryland and the board of directors of Gilda's Club of New York. Earlier in her career, Dr. Mates spent several years as a research analyst and investment banker, and as an advisor to the life sciences industry. Dr. Mates received her BS from the Ohio State University and her Ph.D. from the University of Washington, and completed her postdoctoral fellowships at The Massachusetts General Hospital and Harvard Medical School.

Rupert McShane, Ph.D., is an NHS Consultant Psychiatrist and Associate Professor of Psychiatry at the University of Oxford. He leads the Oxfordshire ECT and ketamine services and runs a memory clinic. His main focus is developing policy and monitoring arrangements for rapidly acting antidepressants such as ketamine. He leads an international online journal club and chair the steering committee of an international academic conference on Ketamine and Related Compounds for Psychiatric Disorders. He works on ways of optimizing the effects of ketamine and am national CI and local PI for trials of rapidly acting antidepressants. Following an NIHR-funded case series exploring the use of repeated ketamine for resistant depression, he has now treated over 300 patients and are continuing to refine treatment protocols. He chaired the Royal College of Psychiatrists Committee on ECT and related treatments. He led a qualitative study of ECT, which led to the creation of a Healthtalk module of patients talking about their experience and an exploration of why experiences are so polarised. When he was Coordinating Editor of the Cochrane Dementia and Cognitive Improvement Group, he led programmes on reviews of diagnostic test accuracy, and modifiable risk factors for dementia. He also supports NIHR funded and commercial dementia and antidepressant trials as a local PI.

Samantha Meltzer-Brody, M.D., MPH, is the Assad Meymandi Distinguished Professor and Chair of the Department of Psychiatry at the University of North Carolina at Chapel Hill. She also directs the UNC Center for Women's Mood Disorders and leads the UNC SOM and UNC Health Well-Being initiative. Dr. Meltzer-Brody is an internationally recognized physician-scientist in perinatal depression. She recently received the 2020 O Max Gardner award, a UNC System Award (17 universities) for the highest faculty honor. She is also the recipient of the 2019 American Psychiatric Association Alexandra Symonds Award in Women's Mental Health and was named one of the "Top 10 Women in Medicine" by the Triangle Business Journal.

Lisa Monteggia, Ph.D., is a translational neurobiologist who studies the cellular basis of psychiatric disorders and their treatment. Dr. Monteggia, PhD is the Barlow Family Director of the Vanderbilt Brain Institute, and Professor of Pharmacology, Psychiatry and Psychology at Vanderbilt University. Dr. Monteggia is known for her pioneering work elucidating synaptic mechanisms underlying antidepressant action. She provided the first direct evidence that BDNF is required for antidepressant action. She went on to identify BDNF in the hippocampus as necessary for antidepressant action, including ketamine's rapid antidepressant effects, through synaptic plasticity processes. Her work has opened up a large field of research examining the role of BDNF in the therapeutic actions of antidepressants as well as the pathophysiology of psychiatric disorders. Dr. Monteggia received an B.S. in Microbiology from the University of Illinois and a Ph.D. from The Chicago Medical School working with Dr. Marina Wolf. Following postdoctoral work at Yale University in the laboratory of Dr. Eric Nestler, she joined the UT Southwestern Medical School faculty in 2002 and held the Ginny and John Eulich Professorship in Autism Spectrum Disorders. In 2018, she joined the faculty at Vanderbilt University. She is the recipient of the Daniel X Freedman Award for Outstanding Basic Research and Achievement from the Brain & Behavior Research Foundation, the Efron Award for Outstanding Basic/Translational Research from the American College of Neuropsychopharmacology, and the International Mental Health Organization Rising Star Award. She is active in-service commitments including the Editorial Board of eLife, Biological Psychiatry, Neuropsychopharmacology, Journal of Biological Chemistry, Behavior Neuroscience, and Hippocampus. Dr. Monteggia serves as an elected Council Member for the Society for Neuroscience. She is a on the Board of Directors of the Rett Syndrome Foundation, a member of the scientific council for the Brain & Behavior Research Foundation, and a member of the Dana Alliance for Brain Initiatives.

John Murray, Ph.D., is an Assistant Professor of Psychiatry, Neuroscience, and Physics at Yale School of Medicine. Dr. Murray trained in Physics and Mathematics at Yale University, obtaining a PhD in Physics with thesis research in computational neuroscience. Following a postdoctoral appointment at New York University, he joined the faculty at Yale in 2015. Dr. Murray where he directs a computational neuroscience lab using modeling, theoretical, and data-analytic approaches, in close collaboration with experimentalists. A central research interests is in developing computational neuroscience approaches to understand neuropsychiatric disorders in a framework for computational psychiatry.

Venkatesha Murthy, M.D., is a physician scientist and psychiatrist by training. He is the global head of psychiatry, Clinical Science, in the Takeda Neuroscience Therapeutic Area Unit with strategic and operational management responsibility of clinical development of the psychiatry portfolio to registration. Venkatesha has successfully overseen the registration of medicines in the US, Europe & Japan. Prior to joining Takeda, he held multiple positions of increasing responsibility including the therapeutic area clinical lead at the GSK Neurosciences Centre of Excellence for Drug Discovery (CEDD). He has led global development programs in MDD, bipolar disorders, schizophrenia and neurodegenerative disorders. Prior to joining industry, he was a clinical academic at the MRC Clinical Sciences Centre, Imperial College London, where his research focused on vulnerability markers of major depressive disorder. Venkatesha completed his initial psychiatry training at the National Institute of Mental Health & Neurosciences, Bangalore, India, where he was involved in the discovery of the antidepressant effect of yoga.

Steven Paul, M.D. (Planning Committee), has over 40 years of experience in neuroscience, particularly in molecular neuropharmacology and CNS drug discovery and development. He first joined Third Rock in 2010 and returned in 2018 as a venture partner. Dr. Paul is the scientific co-founder of Sage Therapeutics and served as its interim start-up head of R&D. He is also the co-founder of Voyager Therapeutics, a CNS gene therapy company, and served as its president and CEO. Dr. Paul is currently the CEO and chairman of Karuna Pharmaceuticals, a company developing novel treatments for psychosis, cognition, and pain. Dr. Paul is the former director of the Appel Alzheimer Disease Research Institute at Weill Cornell Medical College and is currently an adjunct professor of psychiatry and neurology at Washington University of St. Louis School of Medicine. Prior to his appointments at Weill Cornell and Washington University, Dr. Paul spent 17 years at Eli Lilly and Company, during which time he held several key R&D leadership roles. Prior to Lilly, Dr. Paul spent 18 years at NIH and as the scientific director of the National Institute of Mental Health. Dr. Paul has been the recipient of many awards and honors and has served on numerous committees and advisory boards. He has also authored or co-authored more than 550 papers and book chapters. Dr. Paul is an elected fellow of the American Association for the Advancement of Science and a member of the National Academy of Medicine of the National Academy of Sciences. He is also an elected fellow emeritus of the American College of Neuropsychopharmacology (ACNP) and served as ACNP President (1999). Dr. Paul is also currently on the board of directors or is a trustee of several organizations, including serving as Chairman of the Board of the Foundation for the NIH (FNIH) and as a Director of Alnylam Pharmaceuticals, Sage Therapeutics, Voyager Therapeutics and Karuna Pharmaceuticals. Dr. Paul has also served as a member of the National Institute of General Medical Sciences (NIGMS) and the National Institute of Mental Health Advisory Councils and was appointed by the secretary of the Department of Health and Human Services (HHS) as a member of the Advisory Committee to the Director of the NIH from 2001-2006 as well as to the science board of the FDA (2012-2014).

Bryan Roth M.D., Ph.D., is the Michael Hooker Distinguished Professor of Pharmacology at the University of North Carolina Chapel Hill School of Medicine. Dr. Roth received his MD and PhD (Biochemistry) from St. Louis University in 1983 and subsequently trained in pharmacology (NIH), molecular biology (Stanford) and

Psychiatry (Stanford). Prior to coming to UNC, Dr. Roth was a Professor of Psychiatry and Biochemistry at Case Western Reserve University School of Medicine where his clinical specialty was treatment-resistant schizophrenia. Dr. Roth has published more than 450 papers in the general areas of molecular pharmacology, structural biology and synthetic biology including more than 25 papers published in Science, Nature and Cell over the past decade. Scientific highlights include creation of the widely used chemogenetic platform dubbed 'DREADDs' and the elucidation of the structures of LSD and antipsychotic drugs to their molecular targets. Dr. Roth was elected to the National Academy of Medicine of the National Academy of Sciences in 2014 and the American Academy of Arts and Sciences in 2019. He has received many honors including the Goodman and Gilman Award for Receptor Pharmacology, the PhRMA Foundation Excellence in Pharmacology Award, a NARSAD Distinguished Investigator Award and the IUPHAR Analytical Pharmacology Lectureship. Dr. Roth also given more than 20 named lectures including the 2017 Martin Rodbell Lecture and a Presidential Special Lecturer at the 2018 Society for Neurosciences meeting.

Eddine Saiah, Ph.D., has over 20 years of drug discovery, research, and development experience in biotechnology and pharmaceutical companies, and he has led the efforts in the advancement of more than 12 new molecular entities into clinical development over his career. His expertise spans a broad range of drug targets for multiple diseases including CNS, diabetes, obesity, oncology, inflammation, cardiovascular, and pain. Before joining Navitor, he led the drug discovery activities for several portfolio companies of Atlas Venture, including Raze Therapeutics and Quartet Medicine. Previously, Eddine served for a decade in senior R&D roles at Pfizer and Wyeth Research, which was acquired by Pfizer. His work focused on R&D efforts in the inflammation, immunology, and rare disease research units. Dr. Saiah was a postdoctoral research fellow at the Mayo Clinic's Neuroscience Research Center. He received his PhD in chemistry from Pierre & Marie Curie University in Paris, France, and the Cancer Research Institute in Villejuif, France. Dr. Saiah is the co-author and co-inventor of more than 150 publications, scientific presentations, and patents.

Morgan Sheng, MBBS, Ph.D., FRS (Planning Committee), is a Core Institute Member, and Co-Director of the Stanley Center for Psychiatric Research, at the Broad Institute of MIT and Harvard; he is also Professor in the Dept of Brain and Cognitive Science at MIT. Previously (2008-2019), Sheng was Vice-President for Neuroscience at Genentech, a leading biotech company, where he was head of neuroscience research and drug discovery. Under his leadership, multiple innovative programs for treatment of serious diseases of the nervous system were advanced into clinical trials. Prior to joining Genentech, Dr. Sheng was the Menicon Professor of Neuroscience at MIT, as well as Investigator of the Howard Hughes Medical Institute. Sheng received a BA from Oxford University (UK), and obtained his medical degree and training in internal medicine at London University (UK). He also holds a PhD in molecular genetics from Harvard University. Following his postdoctoral work in neuroscience at the University of California, San Francisco, Dr. Sheng served on the faculty at Massachusetts General Hospital and Harvard Medical School before joining MIT. Elected as Fellow of the Royal Society (UK), Fellow of the Academy of Medical Sciences (UK), Fellow of the American Association for the Advancement of Science, and recipient of the 2020 Julius Axelrod Prize from the Society for Neuroscience, Dr. Sheng is author of more than 200 peer-reviewed publications focused on the molecular cellular biology of brain synapses and the mechanisms of nervous system diseases.

Gregory Simon, M.D., M.P.H. (Planning Committee), is an investigator at Kaiser Permanente Washington Health Research Institute and a psychiatrist in Kaiser Permanente's Behavioral Health Service. He is also a Research Professor in the Department of Psychiatry and Behavioral Sciences at the University of Washington. Dr. Simon completed residency training in internal medicine at the University of Washington, residency training in psychiatry at the Massachusetts General Hospital, and fellowship training in the Robert Wood Johnson Clinical Scholars program at the University of Washington. Dr. Simon's research focuses on

improving access to and quality of mental health care, especially for mood disorders and people at risk for self-harm and suicide. Specific areas of research include improving adherence to medication, increasing the availability of effective psychotherapy, personalization of treatment for mood disorders, evaluating peer support by and for people with mood disorders, prediction of suicidal behavior, population-based suicide prevention programs. Dr. Simon currently leads the Mental Health Research Network, an NIMH-funded cooperative agreement supporting population-based mental health research across 14 large health systems.

Ilina Singh, Ph.D. (Planning Committee), is a Professor of Neuroscience & Society at the University of Oxford, England, United Kingdom. She is also a co-director at the Wellcome Trust Centre for Ethics and the Humanities, and is a research fellow at the Oxford Research Centre. Singh obtained a Ph.D. from Harvard University. Dr. Singh leads the Neuroscience Ethics and Society group, based at the University of Oxford Department of Psychiatry (NeuroSec). There, she is involved in developing ethics research and guidance for a range of scientific and clinical studies in Oxford Psychiatry and Neuroscience, including projects in forensic psychiatry, bipolar disorder, psychosis, anorexia nervosa, and global child development. She also provides ethics advice and foresight analysis to projects involving "big neuro" and personalized mental health. Her research focuses on the social and ethical dimensions of innovations in neuroscience, psychiatry, and related areas – and she is particularly interested in translational impacts for children and families. She is an international policy-making board member with the Scatterhood Foundation Program for Behavioral Ethics, University of Pennsylvania Medical School, USA and the ELSA programme of the Norwegian Research Council. Dr. Singh serves as a consultant to health policy groups –including the United Kingdom National Institute for Clinical Excellence, and the National Institute of Health/Hastings Center Working Group on Drugs in Pediatric Psychiatry. She is a co-editor of the *Biosocieties* journal and an editorial board member of the *American Journal of Bioethics-Neuroscience* journal. She has contributed to various scientific and policy groups, including the US National Institutes of Mental Health and the Nuffield Council on Bioethics. Before joining at the University of Oxford, she was a Professor of Science, Ethics & Society at the Department of Global Health & Social Medicine at the King's College London (KCL), England, UK. Dr. Singh was a Reader at the London School of Economics and Political Science before joining KCL. Her current research focuses on the social and ethical side of neuroscience and psychiatry. She is interested in studying translational impacts for children and families, and in developing qualitative and quantitative methods of data collection & presentation. According to Scopus, Dr. Singh has published more than 88 research documents with over 2000 citations, and currently has an h-index of 23.

Brandon Staglin is President of One Mind and channels his deep experience in communications, advocacy, and personal schizophrenia recovery to drive brain health research, services, and media to heal lives. Brandon also serves on advisory councils for the World Economic Forum, the National Institute of Mental Health, the California Mental Health Services Authority's Help@Hand Program, Mindstrong Health, and Stanford University's Prodrome and Early Psychosis Program Network, and is a member of The Stability Network. He earned a Master of Science in Healthcare Administration and Interprofessional Leadership from UCSF in September 2018, and Bachelor of Arts degrees in Engineering Sciences and Anthropology from Dartmouth College in 1993. Among Brandon's recent work, he has successfully advocated for the growth of data-driven, networked, continuously improving prevention and early intervention services for youth facing serious psychiatric illness. He has originated One Mind's ASPIRe Initiative, which aims to dramatically increase both quality treatment access and recovery rates for such individuals through expanding and improving early care. His work was instrumental in the passage of California laws AB 1315 and SB1004, providing funding and accountability for such services statewide.

Carlos Zarate, M.D., is Chief, Section on the Neurobiology and Treatment of Mood Disorders and Chief of Experimental Therapeutics and Pathophysiology Branch (ETPB) at the National Institute of Mental Health, and Clinical Professor of Psychiatry and Behavioral Sciences, at The George Washington University. Dr. Zarate completed a Fellowship in Clinical Psychopharmacology at McLean Hospital from 1992-1993, after which he remained as a staff member until 1998. At the McLean Hospital Consolidated Department of Psychiatry, Harvard Medical School, Dr. Zarate was the Director of the Bipolar and Psychotic Disorders Outpatient Services, Chair of the Pharmacy and Therapeutic Committee, and Director of the New and Experimental Clinic. From 1998 to 2000, Dr. Zarate was the Chief of the Bipolar and Psychotic Disorders Program, Associate Professor of Psychiatry, and Chair of the Grand Rounds Committee at the University of Massachusetts Medical School. In January 2001, he joined the Mood and Anxiety Disorders Program at the NIMH as Chief of the Mood Disorders Research Unit. In 2009, Dr. Zarate formed the Experimental Therapeutics and Pathophysiology Branch at the NIMH. Dr. Zarate's current research focus is on developing novel medications for treatment-resistant depression and bipolar disorder. His areas of expertise include biological and pharmacological aspects of mood disorders in adults. Dr. Zarate's group conducts proof-of-concept studies utilizing novel compounds and biomarkers (magnetoencephalography [MEG] and polysomnography [PSG], positron emission tomography [PET], functional magnetic resonance imaging [fMRI] and magnetic resonance spectroscopy [MRS]) to identify potentially relevant drug targets and biosignatures of treatment response. A multidisciplinary translational research team conducts the research in the ETPB. In addition, the Branch provides training to develop the next generation of clinical translational researchers.

Charles Zorumski, Ph.D., is the Samuel B. Guze Professor and Head of the Department of Psychiatry and Professor of Neuroscience at Washington University School of Medicine (WUSM) in St. Louis. Dr. Zorumski is also Psychiatrist-in-Chief at Barnes-Jewish Hospital and Director of the Taylor Family Institute for Innovative Psychiatric Research. Dr. Zorumski's laboratory studies synaptic transmission in the hippocampus. His studies focus on short- and long-term modulation of the glutamate and GABA neurotransmitter systems, with emphasis on how these transmitter systems participate in memory and neuropsychiatric disorders. A long-standing interest concerns the mechanisms by which neurosteroids and oxysterols modulate GABA and glutamate receptors. Clinically, Dr. Zorumski is interested in the treatment of refractory mood disorders. He has published more than 350 scientific papers and five books, and holds five patents. His work has been funded by the National Institutes of Health since 1987. Dr. Zorumski was named Head of the WUSM Department of Psychiatry in 1997 and Samuel B. Guze Professor in 1998. Since 1997, he has served on the Steering Committees of the McDonnell Center for Cellular and Molecular Neurobiology and the McDonnell Center for Systems Neuroscience, and was Director of the Center for Cellular and Molecular Neurobiology from 2002 to 2013. Dr. Zorumski was named founding Director of the Taylor Family Institute in 2012. In 2015, Dr. Zorumski became Chair of the Center for Brain Research in Mood Disorders. He has served on the Editorial Boards of JAMA Psychiatry, Neurobiology of Disease and Cerebrum, and served on the Board of Scientific Counselors for the NIMH Intramural Research Program from 2009 to 2013. Dr. Zorumski is a distinguished fellow of the American Psychiatric Association, and a fellow of the American College of Neuropsychopharmacology and the American Psychopathological Association. He was elected to the National Academy of Medicine (Institute of Medicine) in 2012 and has previously served on the Academy's Forum on Neuroscience and Nervous System Disorders. Since 2011, he has also served on the Scientific Advisory Board of Sage Therapeutics, a publically-traded company developing neurosteroids and oxysterols as treatments for neuropsychiatric illnesses.