# Preparing the Future Workforce in Drug Research and Development - A Workshop

## Committee

## Cherié Butts

**Co-Chair**

CHERIÉ BUTTS, PHD, (CO-CHAIR), joined Biogen in 2012 - currently Medical Director, R&D. She was clinical lead for peginterferon beta-1a (approved for multiple sclerosis - EU in 2020, US in 2021) and completed a health equity assignment focused on addressing gaps in clinical data to empower patients to make more informed treatment decisions. She earned BA and MS degrees from The Johns Hopkins University; a Ph.D. from University of Texas MD Anderson Cancer Center; and completed a postdoctoral fellowship at the National Institutes of Health studying neuroendocrine regulation of immune cells. Prior to Biogen, she worked at the US Food & Drug Administration where she conducted research and evaluated new drug/biologics applications as immunogenicity and chemistry-manufacturing-controls reviewer. Dr. Butts is passionate about connecting research across academia, government, and industry to advance the biomedical ecosystem. She holds leadership positions in several local, national, and international organizations. This includes the Board of Celebrity Series of Boston, Board (as Treasurer) of FASEB; Trustee Advisory Board of Beth Israel Deaconess Medical Center; Board of Directors of Keystone Symposia; Board of Trustees (chair) of Salem State University; Scientific Advisory Board of Chan Zuckerberg Initiative, and educator (as Adjunct Professor) at University of Maryland.

# Jonathan Watanabe

**Co-Chair**

JONATHAN WATANABE, BCGP, PHARMD, PHD, (CO-CHAIR) is a board-certified geriatrics pharmacist, health economist, and outcomes researcher. He is the Associate Dean of Assessment and Quality at the University of California Irvine School of Pharmacy & Pharmaceutical Sciences and serves as the Director of the Center for Data-Driven Drugs Research and Policy. He serves as a Member of the National Academies of Sciences, Engineering, and Medicine (NASEM) Forum on Drug, Discovery, Development, and Translation. Professor Watanabe has been involved in methods development for pragmatic clinical trials for the NASEM Real-World Evidence Workshop Series and served on the steering committee for the Drug Research Development in Older Adults Workshop. Professor Watanabe applies real-world data to develop policy solutions to improve patient care, bolster population-health, enhance access and equity for marginalized populations and reduce medical costs applying data sourced from sources that includes clinical trials, electronic health records, population surveys, and administrative claims. He has also conducted published research on the clinical work force. He is a past National Academy of Medicine (NAM) Anniversary Fellow in Pharmacy. He served as a Scholar in the NAM Emerging Leaders in Health and Medicine Program. Dr. Watanabe's research on health implications of non-optimized medication regimens has been cited in legislative efforts to bolster patient-centered care and medication management. He is appointed to the Task Force of the California Health Benefits Review Program of the California State Legislature and served on the Advisory Group on Pain Assessment and Management in Long-Term Care Settings for the Joint Commissions. He has been involved in national quality metrics development on long-term care and transitions of care with prior service on the Pharmacy Quality Alliance. He has previously served on the American Academy of Neurology Neurotherapies Workgroup on Pharmacoeconomics. He received his BS from the University of Washington, his PharmD from the University of Southern California, and his MS and PhD from the University of Washington Comparative Health Outcomes, Policy, and Economics (CHOICE) Institute. He has prior direct-patient care clinical experience at the Medicare-Medicaid Program of All-inclusive Care for the Elderly (PACE) program, assisted living, skilled nursing, and long-term care settings.

## Olujimi Ajijola

**Member**

OLUJIMI AJIJOLA, MD, PHD completed his undergraduate studies at the University of Virginia and received his medical degree from Duke University. He went on to the Massachusetts General Hospital for residency training in internal medicine and completed clinical fellowships in cardiovascular medicine and cardiac electrophysiology at UCLA. He received a Ph.D. in Molecular, Cellular, and Integrative Physiology at UCLA, as part of the Specialty Training and Advanced Research (STAR) program. He is interested in novel approaches for cardiac arrhythmias and performs invasive cardiac electrophysiological procedures. His research interests revolve around peripheral neural circuits that control cardiac function in health and disease, including neural interventions that alleviate progressive cardiac dysfunction and arrhythmias.In addition to the NIH Director’s New Innovator award, he is a recipient of the Jeremiah Stamler Cardiovascular Research Award, an A. P. Giannini Foundation post-doctoral award, and a Young Physician Scientist Award from the American Society for Clinical Investigation (ASCI). He is a member of the New Voices program of the National Academies of Science, Engineering, and Medicine. He is a recipient of the Chan Zuckerberg Science Diversity Leadership Award and an elected member of the ASCI.
He is the Associate Director of the UCLA Cardiac Arrhythmia Center & EP Programs, and directs the Neurocardiology Research Program at UCLA. He also co-directs the NIH-funded UCLA-Caltech Medical Scientist Training Program.

## Dowin Boatright

**Member**

DOWIN BOATRIGHT, MBA, MD, MHS is the Vice Chair of Research for the department of Emergency Medicine at the New York University Grossman School of Medicine. Previously, he had a fellowship as a Robert Wood Johnson Foundation Clinical Scholar at the Yale School of Medicine. Prior to this, he completed his residency in Emergency Medicine at Denver Health/University of Colorado where he also served as Chief Resident and among many honors received the Denver Health Program Director’s Award in 2015. Dr. Boatright’s research interests include diversity in the health care workforce and bias and discrimination in medical education. His work has been funded by the National Institute on Minority Health and Health Disparities and by the National Institute of General Medical Sciences. He is also board certified by the American Board of Emergency Medicine. Dr. Boatright is a graduate of Morehouse College, receiving his medical degree from Baylor College of Medicine, and a Master in Business Administration from Rice University.

## Tammy R.L. Collins

**Member**

TAMMY COLLINS, PHD joined the Burroughs Wellcome Fund (BWF) in the fall of 2022. At BWF, Dr. Collins serves as a Program Officer where she directs the Career Awards at the Scientific Interface (CASI) program and the Innovations in Regulatory Science Awards (IRSA). Prior to joining BWF, Dr. Tammy Collins was the Director of the Office of Fellows' Career Development at the National Institutes of Health | National Institute of Environmental Health Sciences (NIH |NIEHS). In this role, Dr. Collins provided professional development training to prepare postdoctoral scholars for the workforce and was focused on making their career outcomes transparent. To this end, she published research on NIEHS postdoctoral scholar outcomes in Nature Biotechnology and led a national effort for the Graduate Career Consortium to review career outcome classification and visualization methodologies in North America. She received an NIH Director's Award for these efforts. Dr. Collins obtained her bachelor's in chemistry from Appalachian State University (ASU), where she became ASU's first Goldwater Scholar, and her Ph.D. in biochemistry from Duke University. After a brief postdoc at Duke, she joined NIEHS as a postdoc in 2009 where she developed her passion for helping foster scientific leaders.

## Lola Fashoyin-Aje

**Member**

LOLA FASHOYIN-AJE, MD, MPH is a medical oncologist and Deputy Director in the Division of Oncology 3 (DO3) in the Office of Oncologic Diseases at the Center for Drug Evaluation and Research- Food and Drug Administration (FDA). In this role, she provides clinical, scientific, and regulatory policy guidance and oversight to multidisciplinary teams reviewing drugs and biologics under development for the treatment of solid tumor malignancies. Dr. Fashoyin-Aje is also an Associate Director in the FDA Oncology Center of Excellence (OCE) where she leads initiatives to address clinical and regulatory science and policy issues impacting oncology drug development. One such initiative is Project Equity- a public health initiative established to ensure that the data submitted to the FDA for approval of oncology medical products adequately reflects the demographic representation of patients for whom the medical products are intended. (https://www.fda.gov/about-fda/oncology-center-excellence/project-equity). Prior to joining the FDA, Dr. Fashoyin-Aje completed her undergraduate and graduate training at Columbia University and Yale University, respectively, and received her M.D. degree from the University of Rochester School of Medicine and Dentistry. She completed postgraduate training in internal medicine and medical oncology at Johns Hopkins.

## Marcus Hodges

**Member**

MARCUS HODGES, PHD is the lead of intramural trainee development for NCATS' Division of Preclinical Innovation (DPI), where he develops, markets, implements and evaluates training and professional development activities for DPI intramural trainees. Serving as an advocate for NCATS fellows, Hodges ensures that trainees have opportunities to acquire and enhance the skills needed to succeed in a preclinical, translational science environment. Prior to joining NCATS, Hodges served as the fellowship director for the National Biosafety and Biocontainment Training Program (NBBTP), overseeing the planning, coordination, and execution of all didactic and experiential training for fellows. Hodges helped enhance the training curriculum and established developmental assignment partnerships with more than twenty-five government, academic and private-sector institutions. Hodges received his doctorate in biology from Howard University, Washington, DC. He then joined the NIAID Laboratory of Allergic Diseases as a postdoctoral fellow, and later completed a second postdoctoral fellowship, specializing in biological safety and biocontainment. Hodges aspires to increase awareness of translational science in populations that are underrepresented among biomedical scientists. Furthermore, he seeks to identify and apply strategies to recruit and retain people from these underrepresented populations for DPI training programs.

## Heather Pierce

**Member**

HEATHER PIERCE, JD, MPH is the senior director for science policy and regulatory counsel at the Association of American Medical Colleges (AAMC). In this role, she serves as AAMC's staff leader for scientific regulatory issues including clinical research, conflicts of interest, evidence-based regulation, and collaborations between industry, government, and academia in biomedical research. She is also the designated subject matter expert for the AAMC Forum on Conflict of Interest in Academe and for Convey, the AAMC's global financial interest disclosure system. Ms. Pierce is Chair of the Board of Directors of Public Responsibility in Medicine and Research (PRIM&R), and regularly speaks at national forums on issues related to the protection of human subjects, conflicts of interest, scientific misconduct, and the regulation of research. She has served on ad hoc committees and task forces convened by organizations including the National Academies, The Pew Charitable Trusts, the National Dialogue on Healthcare Innovation, and PRIM&R. Prior to joining AAMC, Ms. Pierce was an attorney in the Health Care Group of the law firm of Ropes & Gray LLP in New York. Her regulatory practice focused on medical research and clinical care. She received her law degree from NYU School of Law and her M.P.H. in Health Law from Boston University.

## Damani Piggott

**Member**

DAMANI PIGGOTT, MD, PHD is Associate Professor in the Division of Infectious Diseases and the Department of Epidemiology and Associate Vice Provost for Graduate Diversity and Partnerships at Johns Hopkins University. Dr. Piggott directs the Vivien Thomas Scholars Initiative, a $150 million effort supported by Bloomberg Philanthropies directed at connecting students from Historically Black Colleges and Universities and Minority Serving Institutions to STEM graduate education and future STEM leadership. Dr. Piggott has worked on clinical and research projects in urban and rural communities in the United States, the Caribbean, West Africa, and South Africa. His research centers on understanding the biological, behavioral, and social determinant pathways necessary to improve survival and quality of life for persons aging with HIV. Dr. Piggott received his Bachelor of Science degree in Biology and Spanish from Morehouse College. He obtained his PhD degree in Immunology and his medical degree from Yale University. He completed residency training in Internal Medicine and Pediatrics at Yale New Haven Hospital and fellowship training in Infectious Diseases and Epidemiology at Johns Hopkins. Dr. Piggott is a Fellow of the Infectious Diseases Society of America.

## Amir Tamiz

**Member**

AMIR TAMIZ, PHD is the Associate Director at National Institute of Neurological Disorders and Stroke (NINDS) and the Director of the Division of Translational Research (DTR). The mission of DTR is to accelerate application of basic research findings to patient use for neurological disorders and stroke by providing funding, expertise, and resources to the research community. Dr. Tamiz and his team advance this mission – thru several flagship programs spanning therapeutics and device development, model development and screening, and biomarker discovery and validation. His team is also responsible for administration of Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs. Dr. Tamiz joined NINDS in 2012 and assumed leadership role for the NIH Blueprint Neurotherapeutics network (BPN) and Innovation Grants to Nurture Initial Translational Efforts (IGNITE) program. Blueprint Neurotherapeutics network is a collaborative effort among 15 of the NIH institutes and centers, leveraging their resources to offer neuroscience researchers funding for drug discovery and development activities to confront major, cross-cutting challenges in neuroscience. The program has established an efficient pipeline between academia and industry advancing many projects from chemical optimization to Phase I clinical testing. Dr. Tamiz envisioned and launched the IGNITE program in 2014 which has created a contiguous source of support from discovery to preclinical development. IGNITE covers a suite of funding programs spanning assay development and therapeutic agent identification and characterization, pharmacodynamics and In vivo efficacy studies, and development and validation of translational model systems for drug discovery. Prior to joining NIH, Dr. Tamiz had held scientific and management positions in research and development of therapeutic programs at Corvas International (acquired by Dendreon), CovX (now part of Pfizer), and Alba Therapeutics. Dr. Tamiz received his Ph.D. at University of Oregon and conducted postdoctoral research at the Department of Neuroscience at Georgetown University Medical Center.

## Pamela Tenaerts

**Member**

PAMELA TENAERTS, MBA, MD is Chief Scientific Officer at Medable, Inc. Dr. Tenaerts leads the scientific office at Medable to drive responsible advancement of decentralized research methodologies with evidence-based metrics and best practices. Dr. Tenaerts joins Medable from Duke, where she led the Clinical Trials Transformation Initiative's efforts to develop and drive adoption of practices that increase the quality and efficiency of clinical trials.

Tenaerts is one of the leading advocates for innovation in clinical trials, with an emphasis on patient engagement, responsible evidence generation and clinical trial methodology improvements. With more than 30 years' experience in the conduct of clinical trials across a number of stakeholders, she practiced medicine in both the emergency department and as a family practitioner in the private practice setting for several years before embarking on a career in research.

She received her MD from Catholic University of Leuven, Belgium, and a MBA from the University of South Florida. She speaks five languages and has obtained Six Sigma Green Belt certifications.

## Lamont R. Terrell

**Member**

LAMONT TERRELL, PHD is currently the Diversity, Equity, and Inclusion Lead for the R&D organization. He is responsible for developing and implementing the DEI strategy for the global business. Prior to his pivot into leading Human Resource efforts to shape the R&D organization, he spent 14 years as a medicinal chemist leading projects in early drug discovery. As the DEI Lead for R&D, one responsibility for Lamont is developing talent pipeline programs and recruitment strategies to increase the diversity of the R&D workforce. He serves as the GSK representative on the steering committee for the Philadelphia STEM Equity Collective (PSEC). PSEC's mission is to increase the number of underrepresented individuals in the Philadelphia workforce. Outside of work, Lamont is dedicated to the scientific community by serving on executive committees of several professional scientific organizations (i.e. American Chemical Society, NOBCChE). Lamont Terrell graduated salutatorian from Texas Southern University as a Fredrick Douglas honor scholar earning a B.S degree in chemistry in 1995. He earned his Ph.D. in 2001 in organic chemistry from Michigan State. His graduate studies consisted of the total synthesis of the antiluekemic natural product amphidinolide A and the development of catalytic tin hydride reactions. Upon completion of his graduate studies at MSU, he continued his synthetic training with a two-year postdoctoral stint at Stanford University

# Benjamin S. Wilfond

**Member**

BENJAMIN WILFOND, MD Benjamin S. Wilfond MD, is an investigator at the Treuman Katz Center for Pediatric Bioethics and a pulmonologist at Seattle Children's Hospital. He is professor, Division of Bioethics & Palliative Care and Pulmonary & Sleep Medicine, Department of Pediatrics, University of Washington School of Medicine. He founded and is former division chief, Bioethics and Palliative Care and former director, Treuman Katz Center for Pediatric Bioethics, the first such programs in the US. He founded and is the former chair, National Human Genome Research Institute intramural IRB and founded and is the former chair, Clinical Research Ethics Consultation Collaborative, a national network to advance research bioethics consultation practice. Dr Wilfond’s scholarship has focused on ethical and policy issues related to disabilities, genetics, and clinical research. His current scholarship relates to improving access for diverse communities to advanced technologies including genomic research conducted within the context of health care delivery systems. Dr Wilfond is the research ethics case co-editor of the American Journal of Bioethics and on the editorial boards of the Hastings Center Report, Ethics and Human Research, and Journal of Genetic Counseling. He is a past president of the Association of Bioethics Program Directors, has been elected to the American Pediatric Society and is a fellow at the Hastings Center. Dr Wilfond attended Muhlenberg College, Rutgers University-New Jersey Medical School, and completed his postgraduate training at the University of Wisconsin. He has held faculty appointments at the University of Arizona, National Institutes of Health, and Johns Hopkins University.