Standing Committee to Advise the U.S. Department of State on Unexplained Health Effects on U.S. Government Employees and their Families at Overseas Embassies

Committee

David A. Relman

Chair

DAVID A. RELMAN is the Thomas C. and Joan M. Merigan Professor in Medicine, and Microbiology & Immunology at Stanford University, and Chief of Infectious Diseases at the Veterans Affairs Palo Alto Health Care System. He is also Senior Fellow at the Freeman Spogli Institute for International Studies (FSI), and served as Science Co-Director at the Center for International Security and Cooperation (2013-2017), at Stanford. He is currently director of a new Biosecurity Initiative at FSI. Dr. Relman trained at MIT and then Harvard Medical School, followed by clinical training in internal medicine and infectious diseases at the Massachusetts General Hospital in Boston, and then a postdoctoral fellowship in microbiology at Stanford. Dr. Relman was an early pioneer in the modern study of the human microbiome. Recent work focusses on features of human microbial community assembly, and the basis for community stability and resilience. Previous work has included the development of methods for pathogen discovery, and the identification of several historically important and novel microbial disease agents, as well as the use of genomic technologies for understanding human-microbe interactions. In the 1990s, he worked with the CDC on their Unexplained Deaths and Critical Illnesses Project. Among policy-relevant activities in health and biological security, Dr. Relman served as vice-chair of the National Research Council Committee that reviewed the science performed for the FBI 2001 Anthrax Letters investigation, chair of the Forum on Microbial Threats (2007-2017), and is currently a member of the Intelligence Community Studies Board (2016-), all at the U.S. National Academies of Science. He is an advisor to the Nuclear Threat Initiative and the Center for Strategic and International Studies. Dr. Relman was a founding member of the National Science Advisory Board on Biosecurity (2005-2014), a member of the Working Group on Biodefense for the President’s Council of Advisors on Science and Technology (The White House) (2016), and served as President of the Infectious Diseases Society of America (2012-2013). He was a recipient of NIH Pioneer and Transformative Research Awards, and was elected to the National Academy of Medicine in 2011.

Doris Bamiou

Member

DORIS BAMIOU is professor of neuroaudiology at the University College of London Ear Institute. She is also an honorary consultant in audiological medicine at the University College of London Hospitals and Great Ormond Street Hospital. She has been the director and organizer of the current trends in auditory processing disorders instructional courses (since 2001) and UCL master class in auditory processing disorders (since 2008) and programe director of audio-vestibular medicine at the University College of London since 2010. She has served as secretary elect of the British Society of Audiology; chair of the Auditory Processing Disorders Specialist Interest Group (BSA); and editor of the Neuro-otology Module of the eBrain e-learning module (RCP and EFNS). She is also secretary of the International Association of Physicians in Audiology. Dr. Bamiou earned a Ph.D. in neurology from the University College of London.

Linda S. Birnbaum

Member

LINDA BIRNBAUM, NAM, is the director (retiring October 2019) of the National Institute of Environmental Health Sciences (NIEHS), one of the National Institutes of Health (NIH). She is also the director of the National Toxicology Program (NTP). In these roles, Dr. Birnbaum oversees federal funding for biomedical research to discover how the environment influences human health and disease. Her research focuses on the pharmacokinetic behavior of environmental chemicals, the mechanisms of action of toxicants—including endocrine disruptors, and the linking of real-world exposures to health effects. Dr. Birnbaum earned a B.S. in biology from the University of Rochester, and an M.S. and Ph.D. in microbiology from the University of Illinois at Urbana-Champaign.

Michael L. Boninger

Member

MICHAEL BONINGER, NAM is a professor and endowed vice chair for research in the Department of Physical Medicine and Rehabilitation at the University of Pittsburgh’s School of Medicine (UPSD). He has joint appointments in the Departments of Bioengineering, Rehabilitation Science and Technology, and the McGowan Institute of Regenerative Medicine. He is also a physician researcher for the United States Department of Veterans Affairs, a senior medical director for Post-Acute Care for the Health Services Division of UPMC. Dr. Boninger has an extensive publication record of over 250 peer-reviewed papers. His central research focus is on enabling increased function and participation for individuals with disabilities through development and application of assistive, rehabilitative, and regenerative technologies. Dr. Boninger also has extensive experience and publications related to training researchers and served as Associate Dean for Medical Student Research in the School of Medicine for a number of years. Dr. Boninger earned a B.S. in mechanical engineering and his medical degree at Ohio State University. He completed his residency in physical medicine and rehabilitation in Ann Arbor at the University of Michigan Medical Center.

Ronald S. Brookmeyer

Member

RONALD BROOKMEYER, NAM is a professor in the Department of Biostatistics and the interim dean of the Fielding School of Public Health at the University of California, Los Angeles. His research is at the interface of biostatistics, epidemiology, and public health. He uses the tools of the statistical and informational sciences to address global public health problems. A main theme concerns statistical and quantitative approaches for measuring and forecasting the health of populations. Dr. Brookmeyer has worked on the development of methods for tracking the course of the global HIV/AIDS epidemic and has also worked extensively on issues of biosecurity, such as anthrax. Dr. Brookmeyer has ongoing projects concerning the health problems of aging populations such as Alzheimer's disease. His research interests in biostatistical methodology include survival analysis, epidemic models, epidemiological methods, and clinical trials. Dr. Brookmeyer earned a B.S. in mathematics from Cooper Union for the Advancement of Science and Art, and an M.S. and Ph.D. in statistics from the University of Wisconsin.

Caroline Buckee

Member

CAROLINE BUCKEE is an associate professor of epidemiology in the Harvard School of Public Health. Dr. Buckee was also named the associate director of the Center for Communicable Disease Dynamics. Her laboratory, the Buckee lab uses mathematical models and data science to understand the mechanisms driving the spread of infectious diseases, particularly pathogens like malaria that effect vulnerable populations in low income countries. Her focus is on the use of new technologies, including mobile phone data and pathogen genomics, to understand and control disease threats, and to prepare for, and forecast, epidemics. Her work led to an Omidyar Fellowship at the Santa Fe Institute, where she developed theoretical approaches to understanding malaria parasite evolution and ecology. After receiving a D.Phil. from the University of Oxford, Dr. Buckee worked at the Kenya Medical Research Institute to analyze clinical and epidemiological aspects of malaria as a Sir Henry Wellcome Postdoctoral Fellow.

Timothy J. Buckley

Member

TIMOTHY J. BUCKLEY is the director of the Exposure Methods and Measurements Division within U.S. Environmental Protection Agency's (EPA's) National Exposure Research Laboratory. He previously spent 16 years within academia at Johns Hopkins University and Ohio State Schools of Public Health. His work is broad ranging and includes the development and application of exposure methods; measurements; and models to chemical, physical, and biological stressors within community and occupational settings. Exposure is treated comprehensively considering all relevant routes and pathways and typically includes biomonitoring to further inform this research. These studies have been applied in the context of health studies to evaluate environmental determinants of effects that are both salutogenic and adverse (e.g., cancer, neurotoxic, and respiratory). His work is strongly tied to the environmental interests and concerns of communities and has helped to identify and inform issues of environmental justice. His research has led to numerous funded grants and the publication of more than 75 peer-reviewed journal articles. Dr. Buckley has a Ph.D. in environmental science and exposure science.

Joseph J. Fins

Member

JOSEPH J. FINS, M.D., M.A.C.P., F.R.C.P. NAM is the E. William Davis, Jr., M.D. professor of medical ethics, professor of medicine, professor of medical ethics in neurology, professor of medical ethics in rehabilitation medicine, professor of medicine in psychiatry, and professor of health care policy and research in and Chief of the Division of Medical Ethics at Weill Cornell Medical College. Interests include ethical and policy issues related to the diagnosis and treatment of severe brain injury and disorders of consciousness. A member of the adjunct faculty at Rockefeller University, H he is also affiliated with the Yale Law School where he is exploring the legal and ethical issues surrounding severe brain injury from a civil and disability rights perspective. He is also conducting research on ethical implications including the diagnostic role of functional neuroimaging; neuroprosthetic devices used to promote functional communication—such as deep brain stimulation; the experiences of patients and surrogates touched by with brain injury; and public policy for this population (civilian and military). As a board certified internist physician and medical ethicist s his other interests include: palliative care; research ethics in neurology and psychiatry; medical education and methods of ethics case consultation—drawing upon the American Pragmatic tradition. He earned an M.D. from Weill Cornell Medical College and is a graduate of Wesleyan University.

John C. Gore

Member

JOHN C. GORE, NAE, is the director of the Institute of Imaging Science and Hertha Ramsey Cress University professor of radiology and radiological sciences, biomedical engineering, physics and astronomy, and molecular physiology and biophysics at Vanderbilt University. He has served formerly as a member of the National Advisory Council for Biomedical Imaging and Bioengineering at the National Institutes of Health. His research interests include the development and application of imaging methods for understanding tissue physiology and structure, molecular imaging, and functional brain imaging. He has published over 700 original papers and contributions within the medical imaging field. He is a fellow of the American Association for the Advancement of Science, the American Institute of Medical and Biological Engineering, the International Society for Magnetic Resonance in Medicine (ISMRM), the American Physical Society and the Institute of Physics (UK). Dr. Gore obtained his Ph.D. in physics at the University of London in the UK and has been an active leader in imaging research and applications for 40 years. He also holds a degree in law.

Walter J. Koroshetz

Member

WALTER J. KOROSHETZ, NAM is the Director at the National Institute of Neurological Disorders and Stroke (NINDS) within the National Institute of Health (NIH). Previously, he served as Deputy Director of NINDS under Dr. Story Landis. Together, they directed program planning and budgeting, and oversaw the scientific and administrative functions of the Institute. The mission of the Institute is to advance the fundamental knowledge about the brain and the nervous system, and to use that knowledge to reduce the burden of neurological disorders. He has held leadership roles in a number of NIH and NINDS programs including the NIH's Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative; the NIH Helping to End Addiction Longterm (HEAL) Initiative, the Traumatic Brain Injury Center collaborative effort between the NIH intramural program and the Uniformed Health Services University; and the establishment of the NIH Office of Emergency Care Research. Dr. Koroshetz earned a B.A. from Georgetown University and an M.D. from the University of Chicago's, Pritzker School of Medicine and completed residency training in internal medicine and neurology. Prior to coming to NIH he was Professor Neurology at Harvard Medical School, Vice Chair of Neurology and Director of Stroke and Neurointensive Care Services at the Massachusetts General Hospital.

Pamela J. Lein

Member

PAMELA LEIN is a professor in the Department of Molecular Biosciences in the School of Veterinary Medicine at University of California-Davis. She is also a faculty member of the MIND Institute at the University of California-Davis. Research goals in her laboratory include identifying novel therapeutic approaches for preventing brain damage following exposure to chemicals that cause seizures; understanding the cellular and molecular mechanisms by which environmental factors interact with genetic factors to increase risk for neurodevelopmental disorders, such as autism spectrum disorders, and neurodegenerative diseases, such as Alzheimer's disease, and determining how pesticides alter communication between nerves and immune cells in the lung to cause airway hyperreactivity, a major symptom of asthma. This research leverages diverse model systems ranging from primary neuronal cell culture to zebrafish to rodent models, and multiple techniques ranging from cellular and molecular techniques to in vivo imaging to behavioral studies. Professional societies of which she is a member include the Society of Toxicology, the Society for Neuroscience, the International Neurotoxicology Association and the American Society for Pharmacology and Experimental Therapeutics. She earned a B.S. in biology from Cornell University, an M.S. in environmental health from East Tennessee State University, and a Ph.D. in pharmacology and toxicology from the University of Buffalo.

Saafan Z. Malik

Member

MALIK SAAFAN, is a physician-neuroscientist with over fifteen years of experience in the field of traumatic brain injury and neurological disorders. He has been the director of the Research Branch at Defense and Veterans Brain Injury Center (DVBIC) at the Department of Defense since 2014 and the acting deputy division chief of DVBIC since 2019. He directs and oversees 72 Active Research Protocols at DVBIC headquarters and across 22 clinical/research network sites within the military health system (MHS), and serves on numerous government scientific steering committees. Prior to DVBIC, he served as the Senior Research Investigator in the Department of Neurosurgery at the University of Pennsylvania-Perelman School of Medicine and then at the Texas Tech University Health Sciences Center. He has authored several peer-reviewed publications and book chapters and given national and international presentations. His M.D. is from King Edward Medical University, where he also studied neurosurgery training, as well as at the Cleveland Clinic Foundation. He held postdoctoral fellowships at the University of Pennsylvania and at the Carolinas Healthcare System. Dr. Malik is also slated to complete his Master in Business Administration (MBA) in 2019 with a focus on Health Care Management from Western Governors University.

Jeffrey S. Palmer

Member

JEFFREY S. PALMER is Group Leader of the Human Health and Performance Systems Group at Massachusetts Institute of Technology, Lincoln Laboratory (MIT LL). He has expertise within the threat-relevant, biomedical disciplines associated with bioeffects and neurological damage mechanisms related to acoustic or directed energy exposures. He has worked in research laboratories in academia, industry (International Business Machines Corporation [IBM] and General Electric [GE]), and federally funded Laboratories (the Physical Sciences Laboratory, Lincoln Laboratory). At MIT LL, he is the leader of the Human Health and Performance Systems Group, which focuses on objective, technology-based human-centered solutions to measure, model, and modify cognitive and physiological function for enhancement, sustainment, or recovery. Dr. Palmer has been with MIT LL for 22 years, and some of his earlier work included directed energy research on modeling and testing of materials interaction effects. He currently oversees research in health monitoring, as well as the applied neurological, cognitive, and psychological technologies portfolio that includes neurocomputational damage modeling along with acoustic and auditory health research projects. These projects include measurement and modeling of the health effects of high power lasers and high power microwaves on biological tissue and phantoms. To support these and other activities, he initiated the creation of a new interdisciplinary laboratory to measure the interaction of biological materials with photonic, electromagnetic, acoustic, and mechanical sources. He has authored book chapters, technical articles and given invited talks international conferences on DNA biometrics and forensics, biomechanics, cell biology, materials science, soldier nanotechnology, bio-chemical defense, polymer science, high-energy lasers, microelectronics packaging, wearable biomedical sensing, and neurocognitive technologies. He has served on editorial boards for journals in biomechanics, molecular science, biomedical informatics, and biosensors. He has chaired technical conferences for the National Science Foundation, Department of Homeland Security, and the Institute of Electrical and Electronics Engineers (IEEE). Currently, he is the vice chair and chair-elect of the IEEE Engineering in Medicine and Biology Society’s (EMBS) Technical Committee on Wearable Biomedical Sensors and Systems and the EMBS conference editorial board for tissue engineering and biomaterials. In addition, he has served as an advisor on senior military studies of enhancing health and performance; a North American Treaty Organization (NATO) human factors and medicine research technical group; and an National Science Foundation Nanosystems Center on Advanced Self-Powered Systems of Integrated Sensors and Technologies (ASSIST). Dr. Palmer received mechanical engineering degrees from New Mexico State University (B.S. with math minor), Rensselaer Polytechnic Institute (M.S.), and Massachusetts Institute of Technology (Ph.D. with bioengineering focus). His doctoral work focused on measuring and modeling biomechanical function and damage of protein networks from the molecular through tissue scales.

Gregory B. Saathoff

Member

GREGORY B. SAATHOFF is a board-certified psychiatrist who holds joint appointments as professor in the Departments of Emergency Medicine and Public Health Sciences at the University of Virginia (UVA) School of Medicine. He also serves as executive director of the University of Virginia's Critical Incident Analysis Group (CIAG) and since 1996 has served as the Federal Bureau of Investigation's (FBI's) Conflict Resolution Specialist. He continues to serve in this capacity as the chief psychiatric consultant for the FBI's Behavioral Analysis Units and Crisis Negotiation Unit. Since 1992, he has taught medical students, residents, and fellows correctional psychiatry on-site at a men's maximum security prison. In his faculty role, he served as the elected Chair of UVA's General Faculty Council. From 1985 to 1994, Dr. Saathoff served as a major in the United States Army Reserves Psychiatry Medical Corps. He was called from Reserve Duty during Operation Desert Storm and deployed as a medical corps psychiatrist, earning the Army Commendation Medal in 1991. As a member of the University of Virginia's Kuwait Project, he studied societal trauma in Kuwait subsequent to the Iraqi occupation and has served on the faculty of the Saudi-U.S. Universities Project located at the King Faisal Specialist Hospital in Riyadh, Saudi Arabia. In addition to the Middle East, Dr. Saathoff's work has taken him to projects in the former Soviet Union, Western Europe, and Australia. In 2006, Dr. Saathoff was appointed to the Research Advisory Board of the FBI's National Center for the Analysis of Violent Crime. He has served as a principal investigator on federal grants relating to public response to weapons of mass destruction and internet radicalization. After receiving his undergraduate degree from the University of Notre Dame and his M.D. at the University of Missouri School of Medicine, Dr. Saathoff completed residency training in psychiatry at the University of Virginia School of Medicine.

Clifford B. Saper

Member

CLIFFORD B. SAPER, NAM, is the James Jackson Putnam Professor of Neurology and Neuroscience and Chair of the Beth Israel Deaconess Department of Neurology at Harvard Medical School. Dr. Saper earned a B.A. degree in Biochemistry and M.S. in Neurobiology from the University of Illinois, then his M.D. and Ph.D. in Neuroscience from Washington University in St. Louis. After a residency in Neurology at New York Hospital-Cornell University Medical Center, he then was on the faculty at Washington University and the University of Chicago, where he was the William D. Mabie Professor of Neurology and Neuroscience and Chair of the Committee on Neurobiology, before taking his current position. The focus of Dr. Saper's research is on brain circuitry that controls basic functions like wake-sleep, circadian rhythms, body temperature regulation, and eating and drinking.

Mark J. Shelhamer

Member

MARK J. SHELHAMER is associate professor of otolaryngology at Johns Hopkins University. He was previously at Massachusetts Institute of Technology (MIT) where he worked on sensorimotor physiology and modeling, including the study of astronaut adaptation to space flight. He then came to Johns Hopkins where he continued the study of sensorimotor adaptation with an emphasis on the vestibular and oculomotor systems. He has applied nonlinear dynamical analysis to the control of eye movements, including investigations of the functional implications of fractal activity in physiological behavior. In parallel with these activities, he has had support from NASA to study sensorimotor adaptation to space flight, amassing a fair amount of parabolic flight ("weightless") experience in the process. He also serves as an advisor to the commercial spaceflight industry on the research potential of suborbital space flight. From 2013 to 2016 he was on leave from his academic position to serve as NASA's Chief Scientist for human research at the Johnson Space Center. He has a B.S. and M.S. in electrical engineering from Drexel University, and a Ph.D. in biomedical engineering from Massachusetts Institute of Technology.

Jeffrey P. Staab

Member

JEFFREY P. STAAB is a professor of psychiatry and director of the Fellowship in Consultation-Liaison Psychiatry in the Department of Psychiatry and Psychology at Mayo Clinic College of Medicine and Science. He is also a consultant in the Departments of Psychiatry and Psychology and Otorhinolaryngology—Head and Neck Surgery at Mayo Clinic. His research, which is funded by the U.S. National Institutes of Health, U.S. Department of Defense, and Mayo Clinic, covers a range of problems at the interface of psychiatry and medicine, including functional otologic and neurologic disorders and illness anxiety. He is best known for investigations of the differential diagnosis and treatment of chronic dizziness. He is author or co-author of more than 130 scientific articles, reviews, chapters, and abstracts. He serves on the editorial boards of six scientific journals in the fields of psychosomatic medicine and otorhinolaryngology. Dr. Staab received a B.S. in chemical engineering from Northwestern University, an M.S. in bioengineering from Carnegie-Mellon University, and an M.D. from the University of Pittsburgh.

Jonathan Trobe

Member

JONATHAN D. TROBE is Professor, Ophthalmology and Visual Sciences, Professor, Department of Neurology and Co-Director, Kellogg Eye Center for International Ophthalmology at the University of Michigan. Dr. Trobe’s research has covered a wide spectrum of neuro-ophthalmic entities, as well as studies of utilization of health care personnel and application of clinical trial data to medical practice. His research insterest include neural visual pathway disorders, double vision, pupillary abnormalities, eyelid disorders, higher order disorders of visual integration, traumatic brain injury, and disorders of high and low intracranial pressure. In 2001, he was appointed editor of the Journal of Neuro-Ophthalmology, serving until 2009. He has written and taught widely around the world and authored nearly 200 peer-reviewed scholarly articles. For the American Academy of Ophthalmology, he authored The Physician’s Guide to Eye Care, a widely used textbook. He has also authored The Eyes Have It, a web-based and mobile application designed to teach non-ophthalmologist providers and assess their ophthalmic knowledge. Dr. Trobe received his medical degree from Harvard University, and completed residencies in ophthalmology at Wills Eye Hospital and neurology at the University of Miami. He completed

David A. Whelan

Member

DAVID WHELAN, NAE is professor of the practice in electrical and computer engineering at the University of California San Diego. Dr. Whelan's expertise is in electromagnetic systems engineering for sensing, imaging, and communications as well as in the management of science, technology, and innovation. He designs and engineers aircraft, RADAR and Light Detection and Ranging (LIDAR) systems, space-based communications and navigation systems, and diagnostic sensors for high energy density physics experiments. His work has been used in space mission systems, airborne navigation, and surveillance systems. Dr. Whelan’s 34-year career in the aerospace industry included science and engineering research positions and eventually executive research and development management as vice president and chief scientist of the Boeing Defense and Space Systems. He also served as the office director for two of the Defense Advanced Research Projects Agency (DARPA) systems offices. While at DARPA, Dr. Whelan created many legacy joint programs with the Air Force, Navy, and the Army, most notably, the Discoverer II Space Radar Program, the Army’s Future Combat System, and the Unmanned Combat Air Vehicle for Navy and Air Force. He previously worked at the Hughes Aircraft Company as program manager and chief scientist for the B-2 Bomber Air-to-Air Radar Imaging Program. He also worked as a physicist for the Department of Energy’s Lawrence Livermore National Laboratory (LLNL) on X-ray lasers and the Advanced Nuclear Weapons program. He started his career at Northrop where he was one of the key designers of the B-2 Stealth Bomber and contributed to the YF-23 Advanced Tactical Fighter. He has numerous publications on electromagnetic radiation, laser plasma phenomena, and defense systems. He holds over 50 patents on navigation systems, radar systems, antenna, and low-observable technology. He is a fellow of the American Physical Society, the Institute of Electrical and Electronics Engineers (IEEE), and the American Institute of Aeronautics and Astronautics (AIAA). He earned a B.A. in physics from the University of California at San Diego and an M.S. and Ph.D. in physics from the University of California, Los Angeles where he studied Type III Radio Solar Bursts and Nonlinear Energy Flow.

Liza Hamilton

Staff Officer