



**Measurement of Pain**  
Behavioral, Social  
and Biological Factors

February 13 – 14, 2020

The National Institutes of Health  
Building 45  
Natcher Conference Center  
Bethesda, Maryland

Hosted by  
The NIH Office of Behavioral and Social Sciences Research (OBSSR)



National Institutes of Health (NIH)  
Office of the Director (OD)  
Division of Program Coordination, Planning, and Strategic Initiatives (DPCPSI)  
Office of Behavioral and Social Sciences Research (OBSSR)

## Measurement of Pain: Behavioral, Social, and Biological Factors

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### BIOSKETCHES

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**Will M. Aklin, Ph.D.**

**Director, Behavioral Treatment Program**

**Clinical Research Grants Branch (CRGB)**

**National Institute on Drug Abuse (NIDA)**

**National Institutes of Health (NIH)**

Will M. Aklin, Ph.D., is director of the Behavioral Therapy Development Program (BTDP) within the Division of Therapeutics and Medical Consequences at NIDA. The overarching goal of BTDP is to produce efficacious, implementable and self-sustaining treatments for substance use disorders. BTDP supports Stage I (treatment generation, refinement), Stage II (efficacy), and Stage III (efficacy in the real-world) research. Research areas supported by BTDP include development of treatments targeting specific novel or insufficiently-studied behavioral and neurobehavioral processes (e.g., impulsivity, risk-taking propensity, decision-making), the examination of theory-derived treatment targets and mechanisms of behavior change, adherence, and studies that integrate behavioral/pharmacological, technology- and neuromodulatory-based treatment. Dr. Aklin received his Ph.D. in Clinical Psychology from the University of Maryland. He completed his clinical residency at Yale University School of Medicine, and a post-doctoral fellowship at Johns Hopkins University School of Medicine—Behavioral Pharmacology Research Unit. He has received numerous awards and honors, including Early Career Investigator Awards from the College on Problem of Drug Dependence (CPDD) and the Association of Behavioral and Cognitive Therapies (ABCT). Dr. Aklin's areas of research include the development of treatments targeting specific neurobehavioral processes (e.g., impulsivity, risk-taking, decision-

making), the examination of theory-derived treatment targets and mechanisms of behavior change, adherence, and studies that integrate behavioral/pharmacological treatment. Dr. Aklin has extensive clinical research experience in behavioral and cognitive-behavioral treatment for substance dependence; adaptive brief interventions and adherence trials. He joined NIDA in 2008.



**David Boone, BSPO, M.P.H., Ph.D.**  
**CEO, Orthocare Innovations**

Dr. Boone has spent the past 20 years as an innovator, developer, researcher and instructor in rehabilitation and bioengineering. A frequent lecturer at academic medical centers on a range of prosthetic and rehabilitation topics, and a widely published author, he is credited with multiple technology patents, including a foot-scanning technology that was licensed to Nike. Recently, he was the inventor and lead developer of two new patent-pending alignment technologies: Compas™ and RoboPAL, supported by the National Institutes of Health. Dr. Boone received his Ph.D. in Bioengineering from The Hong Kong Polytechnic University and became one of fewer than ten American Ph.D.s with formal training and clinical experience in prosthetics.



**David Borsook, M.D., Ph.D.**  
**Professor of Anesthesia, Harvard Medical School**  
**Director, Center for Pain and the Brain – Boston Children’s, MGH and McLean Hospitals**  
**The Mayday/Herlands Chair in Systems Neuroscience**  
**Boston Children’s Hospital and Harvard Medical School**

David Borsook trained in Neurology, Pain Medicine and Neurobiology. He is currently the Director of the Center for Pain and the Brain, which encompasses Boston Children's Hospital, Massachusetts General Hospital, and McLean Hospital. He is Professor at Harvard and holds The Mayday/Herlands Chair in Systems Neuroscience. He had also held positions as Director of the Pain Program at MGH, Founder and Scientific Director of a company using imaging for drug development. He is an inventor on multiple US Patent applications including objective measures of pain in unconscious patients and novel drugs, one of which went into clinical trials. He is Professor in Anesthesiology at Harvard Medical School. He has been the PI or MPI multiple NIH grants over 25 years and has published over 280 peer reviewed articles. He has mentored a number of successful scientists and clinicians in the field of pain medicine and pain research.



**Claudia M. Campbell, Ph.D.**

**Associate Professor, Department of Psychiatry & Behavioral Sciences**

**Department of Neurosurgery**

**Johns Hopkins University School of Medicine**

Dr. Campbell earned her BS, MS and PhD at the University of Florida. After doing her internship at the University of California, San Diego/VA consortium, she moved to Baltimore to join the Interdisciplinary Training Program in Biobehavioral Pain Research as a postdoctoral fellow. Shortly thereafter, she was awarded an F32 training grant to examine ethnic differences in behavioral analgesia and the endogenous opioid system. She was awarded a K23 career development award and joined the faculty in Psychiatry and Behavioral Sciences in 2010. She recently received an R01 to investigate individual differences in laboratory pain-induced mu-opioid receptor binding potential.



**Wen Chen, Ph.D.**

**Branch Chief, Basic and Mechanistic Research in Complementary and Integrative Health Division of Extramural Research (DER)**

**National Center for Complementary and Integrative Health (NCCIH)**

**National Institutes of Health (NIH)**

Wen G. Chen, Ph.D., serves as Branch Chief of NCCIH's Basic and Mechanistic Research in Complementary and Integrative Health in the Division of Extramural Research. She joined NCCIH as a program director in March 2015. She oversees NCCIH's portfolio on neurobiology and integrative physiology of mind and body programs and natural products; basic and clinical mechanistic studies of acupuncture, meditation, mindfulness, placebo effects, other types of mind and body interventions, natural products, including traditional Chinese herbal medicines, as well as other naturally occurring compounds; and mechanistic studies of complementary approaches in the context of pain management, and integration of genetic and epigenetic approaches into the neurobiological and physiological studies of complementary approaches.

Dr. Chen earned a doctor of philosophy in biological chemistry and molecular pharmacology from Harvard University. Under the tutelage of Dr. Michael E. Greenberg at Harvard Medical School, she studied the epigenetic regulation of activity-dependent expression of brain-derived neurotrophic factor (BDNF). She also earned a master's degree in medical sciences as part of the Harvard-Markey Medical Scientist training program at Harvard Medical School. Dr. Chen did her postdoctoral training in proteomics at Massachusetts Institute of Technology (MIT). Prior to joining NCCIH, Dr. Chen worked as a scientific editor at NEURON, a program coordinator at the National Institute of Mental Health, and a program director at the National Institute on Aging, overseeing the research portfolio on sensory and motor disorders of aging.

She has published on transcriptional and epigenetic regulation of BDNF, aging and central neural control of mobility in older adults, pharmacological management of chronic pain, harnessing neuroplasticity for clinical applications, chemical senses and aging, and proteomics. Her articles have

appeared in Science, NEURON, Proceedings of the National Academy of Sciences (PNAS), The Journal of Neuroscience, The Journal of Pain, Pain Medicine, Brain, The Journal of Gerontology, and Expert Review of Proteomics.



**Juanita Chinn, Ph.D.**

**Program Director, Population Dynamics Branch**

***Eunice Kennedy Shriver* National Institute of Child Health and Human Development (NICHD)**

**National Institutes of Health (NIH)**

Juanita J. Chinn, Ph.D., is a program director in the Population Dynamics Branch, where she manages the programs on the Demography of Health, Mortality, and Population Composition, as well as small business-related programs for the branch. Dr. Chinn serves on the NICHD Opioid Initiative Working Group as well as the Diversity Supplement Committee. She is actively involved in federal interagency activities, including Federal Interagency Forum on Child and Family Statistics and the Interagency Committee on the American Community Survey. Before joining the NICHD Population Dynamics Branch in January 2017, Dr. Chinn was the HHS Office of Minority Health's Health Disparities Fellow at the National Center for Health Statistics. Her interests include racial, ethnic, and nativity disparities in health, morbidity, and mortality.

Dr. Chinn received her M.A. and Ph.D. in sociology, with a specialization in demography, from the University of Texas at Austin, supported by T32HD007081. She trained as an NIH postdoctoral fellow in the Office of Population Research at Princeton University (T32HD007163). She holds an Sc.B. in applied mathematics and psychology from Brown University.



**Elizabeth Roy Felix, Ph.D.**

**Research Associate Professor**

**Department of Physical Medicine and Rehabilitation**

**University of Miami Miller School of Medicine;**

**Research Health Scientist**

**Miami Veterans Administration Medical Center**

Dr. Felix is a Research Associate Professor in the Department of Physical Medicine and Rehabilitation at the University of Miami Miller School of Medicine, and a Research Health Scientist at the Miami Veterans Affairs Medical Center. She has over 20 years of experience in psychophysical techniques used to study somatosensory function (i.e., quantitative sensory testing) in both healthy populations and in chronic pain patients. Her primary research expertise is in the multidimensional measurement

of clinical neuropathic pain, and her work is aimed at understanding the contributions of both somatosensory dysfunction and psychosocial risk-factors associated with the development and severity of chronic pain conditions. Dr. Felix is the Project Director of the South Florida Spinal Cord Injury Model System Center, funded through the National Institute on Disability, Independent Living, and Rehabilitation Research. She was Co-chair of the “Measurement of Pain and its Impact” special interest group of the American Pain Society from 2015-2019. Her current funded studies focus on chronic neuropathic pain associated with traumatic spinal cord injury and on neuropathic-like ocular pain conditions.



**Luca Foschini, Ph.D.**  
**Co-founder and Chief Data Scientist**

**Evidation Health, Inc.**

Luca is the Co-founder and Chief Data Scientist at Evidation Health, responsible for data analytics and research and development. At Evidation he has driven research collaborations resulting in numerous publications in the fields of machine learning, behavioral economics, and medical informatics. Previously, Luca held research positions in industry and academic institutions, including Ask.com, Google, ETH Zurich, and UC Santa Barbara. He has co-authored several papers and patents on efficient algorithms for partitioning and detecting anomalies in massive networks. Luca holds MS and PhD degrees in Computer Science from UC Santa Barbara, and ME and BE degrees from the Sant’Anna School of Pisa, Italy.



**Roy Freeman, M.D.**  
**Director and Professor of Neurology**  
**Center for Autonomic and Peripheral Nerve Disorders**  
**Beth Israel Deaconess Medical Center**

Roy Freeman is Professor of Neurology at the Harvard Medical School and director of the Center for Autonomic and Peripheral Nerve Disorders in the Department of Neurology at Beth Israel Deaconess Medical Center in Boston, Massachusetts. His research and clinical interests are the physiology and pathophysiology of the small nerve fibers and the autonomic nervous system. His research encompasses the neurological complications of diabetes; neuropathic pain; the autonomic complications of Parkinson’s disease and multiple system atrophy; and the diagnosis and treatment of autonomic and peripheral nervous system disorders. He has a special interest in clinical trial design in neuropathic pain in diabetic peripheral neuropathy and other peripheral nerve disorders. He has been principal investigator on many neuropathic pain clinical trials. He is the principal investigator on National Institutes of Health-funded studies on the neurological complications of diabetes and biomarker development in alpha-synucleinopathies. Dr. Freeman is also chairman of the World Federation of Neurology research group on the autonomic nervous system. He serves on the Executive Committee and the Steering Committee of the Analgesic, Anesthetic, and Addiction Clinical Trial Translations, Innovations, Opportunities, and Networks (ACTION), a public-private partnership with the United States FDA. He is Editor-in-Chief of *Autonomic Neuroscience*:

Basic and Clinical and on the editorial boards of The Clinical Journal of Pain, Pain: Clinical Updates and Clinical Autonomic Research.



**Francis J. Keefe, Ph.D.**  
**Professor in Psychiatry and Behavioral Sciences**  
**Duke University**

The primary aim of our research over the past year has been to evaluate the efficacy of cognitive-behavioral treatments for arthritis pain. We are conducting two treatment outcome studies supported by grants from the National Institute of Arthritis, Musculoskeletal, and Skin Diseases. The first project, conducted with osteoarthritis patients, seeks to determine whether aerobic exercise training can enhance the effects of a cognitive behavior therapy (CBT) intervention for managing pain and disability. The CBT intervention is innovative in that it systematically involves spouses in training in pain coping skills. The second project tests the long-term effectiveness of a relapse prevention training intervention. This study will feature the use of newly developed daily study methods to analyze the long-term effects of pain coping skills training on daily pain. In addition, in conjunction with Lara Schanberg of the Department of Medicine we are carrying out a study funded by the Arthritis Foundation that examines the effects of a pain coping skills training regimen for pediatric fibromyalgia patients. Finally, we are currently gathering pilot data for two new research projects. One project seeks to evaluate the efficacy of a cognitive behavior therapy and education intervention for managing pain in patients having breast cancer and prostate cancer. The second project examines the efficacy of patient-controlled compression protocol in the management of pain during mammography.



**Alban Latremoliere, Ph.D.**  
**Assistant Professor of Neurosurgery and Neuroscience**  
**Neurosurgery Pain Research Institute**  
**Johns Hopkins School of Medicine**

Alban Latremoliere is an Assistant Professor in the department of Neurosurgery at Johns Hopkins University (MD, USA). He graduated in Neuroscience from the University Pierre and Marie Curie (Paris, France) and performed his postdoctoral training at the F.M. Kirby Neurobiology Center at Boston Children's Hospital and Harvard Medical School (MA, USA). Dr. Latremoliere's laboratory focuses on the neurobiology of sensory systems, with an emphasis on pain and regeneration. The main areas of research are: 1) Assess ongoing pain in rodent models of neuropathic pain in vivo and determine the mechanisms responsible, 2) Understand the relationship between reinnervation of target tissue after peripheral nerve regeneration and functional recovery/pain sensitivity and 3) Determine how acute and chronic pain alter sleep architecture.

**Karen C. Lee, M.D., M.P.H.**

**Program Director, Behavioral Pediatrics and Health Promotion Program**

**Division of Extramural Research (DER),**

***Eunice Kennedy Shriver* National Institute of Child Health and Human Development**

Dr. Karen C. Lee is the program director for NICHD's Behavioral Pediatrics and Health Promotion Program in the extramural research portfolio. Prior to joining NIH, Dr. Lee worked with the U.S. Preventive Services Task Force and Evidence-based Practice Centers Programs at the Agency for Healthcare Research and Quality. These activities came after several years of working on medical product safety at the U.S. Food and Drug Administration and the Health Resources and Services Administration. A graduate of Northwestern University's Honors Program in Medical Education (which awards bachelor's and medical degrees), Dr. Lee completed pediatrics internship and residency training at New York Presbyterian Hospital in New York City, followed by pediatric research fellowship/master of public health at Harvard University.



**Clas Linnman, Ph.D.**

**Assistant Professor, Spaulding Neuroimaging Lab**

**Harvard Medical School**

Dr. Linnman is a psychologist trained in Positron Emission Tomography (PET) and Magnetic Resonance Imaging (MRI) with 15 years of experience in multimodal imaging of pain and negative affect. In his work, he has used PET with multiple tracers to define monoaminergic, peptidergic and inflammatory aspect of clinical pain and clinical anxiety. He has further used fMRI and PET-fMRI combined to study pavlovian conditioning mechanisms for defining emotional circuits in psychiatric disease states. He is currently developing state of the art fMRI, PET and simultaneous PET-MR to visualize and quantify nociceptive processes, from peripheral lesions —via CNS changes in structure, function and receptor expression — to behavioral consequences. Dr. Linnman also has experience in neuroimaging of animal models of spinal cord injury, as well as extensive expertise in MRI and PET of SCI and other complex neurological-, pain-, and psychiatric conditions.



**Karen Lomond, Ph.D.**

**Assistant Professor, Department of Physical Therapy**

**Ithaca College**

Experienced Assistant Professor with a demonstrated history of working in the higher education industry. Skilled in Statistics, Research, Matlab, Data Analysis,

and Scientific Writing. Strong education professional with a Doctor of Philosophy (PhD) focused in Biomechanics/Ergonomics from McGill University.



**William Maixner, D.D.S., Ph.D.**

**Director and Vice Chair for Research**

**Center for Translational Pain Medicine Department of Anesthesiology**

**Duke University**

Dr. William Maixner, is the Director of the Center for Translational Pain Medicine (CTPM). CTPM incorporates basic science, clinical research, and pain management with the goals of: 1) understanding the pathophysiological processes that mediate persistent pain conditions and translating new discoveries into clinical practice, 2) creating high-quality educational programming for clinical and research professionals and the public, and 3) providing high-quality comprehensive, primary and specialized care to individuals with a variety of acute and chronic pain conditions. In addition, the Center aims to develop a common portal of entry by which patients will benefit from a multidisciplinary approach to the management of a variety of pain conditions. Complementing the existing Duke Pain Medicine Clinic, a treatment facility for orofacial pain will also open its doors in the Brier Creek area in Summer 2016. After completing his BA, PhD, and DDS at the University of Iowa, Dr. Maixner was a research fellow at the National Institute of Dental Research. From 1985-2015, he was faculty at UNC-CH, rising from Assistant Professor in Prosthodontics to Professor in the Departments of Endodontics and Pharmacology. In 2009, Dr. Maixner was appointed the Mary Lily Kenan Flagler Bingham Distinguished Professorship. He also served as Co-Director of the Oral and Maxillofacial Pain Program, Associate Dean for Academic Affairs in the School of Dentistry, and Director of the Center for Pain Research and Innovation (CPRI). In 2013, he received the New York College of Dentistry Distinguished Scientist Award and the Wilbert E. Fordyce Clinical Investigator Award from the American Pain Society. He has published more than 200 manuscripts and book chapters and has been continuously funded by the National Institutes of Health (NIH) since 1986. In 2005, Dr. Maixner was the Program Director on the National Institute of Dental and Craniofacial Research's (NIDCR) \$19 million, seven-year OPPERA study to examine pain produced by temporomandibular joint and muscle disorders. In 2012, the NIDCR awarded Dr. Maixner and his team an additional \$16 million in funding to support the study (called OPPERA II) for an additional five-year period. Dr. Maixner's primary research focus is on biological, environmental, and genetic factors involved in pain transmission and modulation. Dr. Maixner considers chronic pain to be a "hidden epidemic" and has therefore campaigned for more research support amongst colleagues, sponsors, health organizations, and congressional committees: [www.help.senate.gov/hearings/pain-in-america-exploring-challenges-to-relief](http://www.help.senate.gov/hearings/pain-in-america-exploring-challenges-to-relief).





**Martha Matocha Ph.D.**

**Program Director, Symptom Science and Genetics Branch**

**Office of Extramural Programs**

**National Institute of Nursing Research (NINR)**

**National Institutes of Health (NIH)**

Dr. Matocha leads the Symptom Science and Genetics and Self-Management Branch. Dr. Matocha's research background includes work on the post-translational processing of mitochondrial cytochrome P-450 proteins and differential gene expression in a mouse model of trisomy 21. She served 13 years as Principal Investigator of the NIH-funded AIDS Research and Reference Reagent Program, a resource that acquires, develops, and ships critical research reagents to investigators around the world. Dr. Matocha has also served as a Policy Analyst for NIH with responsibilities related to the Government Performance and Results Act; NIAID Program Officer with oversight of HIV/AIDS clinical trials; and NIH Scientific Review Officer for managing reviews of research infrastructure and translational science applications. Dr. Matocha holds BS (nursing), MS (biochemistry), and PhD (biochemistry) degrees.



**Vitaly Napadow, Ph.D., LAc.**

**Associate Professor, Harvard Medical School**

**Director, Center for Integrative Pain Neuroimaging (CiPNI)**

**Martinos Center for Biomedical Imaging**

**Massachusetts General Hospital**

Vitaly Napadow is an Associate Professor at the Martinos Center for Biomedical Imaging at Massachusetts General Hospital and Harvard Medical School in Boston, MA, where he is also the Director of the Center for Integrative Pain Neuroimaging (CiPNI). Dr. Napadow's laboratory has pioneered the application of non-invasive neuroimaging techniques to better understand the brain circuitry underlying aversive perceptual states, particularly chronic pain. Somatosensory, cognitive, and affective factors all influence the malleable experience of pain, and Dr. Napadow's Lab has applied human functional and structural neuroimaging to localize and suggest mechanisms by which different brain circuitries modulate pain perception. His lab's recent neuroimaging publication reporting on the largest cLBP cohort to date, characterized how neuroimaging and physiological markers encode and predict clinical back pain severity. Dr. Napadow's neuroimaging research also aims to better understand how non-pharmacological therapies, from acupuncture and transcutaneous neuromodulation to cognitive behavioral therapy and mindfulness meditation training, ameliorate these states. Dr. Napadow has more than 140 publications in leading peer-reviewed scientific journals, is past-President of the Society for Acupuncture Research, and serves on numerous conference, journal, and NIH review panels. He was recently named to the Distinguished

Investigator Council by the Academy for Radiology & Biomedical Imaging Research and received the Excellence in Integrative Medicine Research Award by the European Society for Integrative Medicine.



**Tonya M. Palermo, Ph.D.**  
**Professor of Anesthesiology & Pain Medicine, University of Washington**

**Associate Director, Center for Child Health Behavior and Development, Seattle Children's Research Institute**

Dr. Tonya Palermo is a pediatric psychologist and professor of anesthesiology and pain medicine at University of Washington with adjunct appointments in pediatrics and psychiatry. She also serves as associate director of the Center for Child Health, Behavior and Development at Seattle Children's Research Institute. She directs the Pediatric Pain & Sleep Innovations Lab that aims to improve the lives of children with pain and their families. Her NIH-funded research investigates behavioral, psychosocial and family factors that affect pain experiences, and development and evaluation of innovative technology-delivered psychological treatments that can be delivered at low cost. Dr. Palermo has published over 200 peer-reviewed articles and two books on cognitive-behavioral therapy for chronic pain in children and adolescents. Dr. Palermo directs a T32 anesthesiology postdoctoral training program and is active in training clinician-scientists at the postdoctoral and junior faculty level. Dr. Palermo is Editor-in-Chief for the Journal of Pediatric Psychology and Associate Editor for PAIN and has been elected Fellow of the American Psychological Association. She serves as a member of the CSR Advisory Council.



**Elektra Papadopoulou, Ph.D.**  
**Supervisory Medical Officer**  
**U.S. Food and Drug Administration**

Dr. Papadopoulou serves as the Associate Director of the Clinical Outcome Assessments Staff in the Office of New Drugs in the Center for Drug Evaluation and Research (CDER).

The staff provides consultation to CDER's Review Divisions as well as other FDA Centers on clinical outcome assessments (COAs) regarding their development, validation, interpretation and overall suitability to support labeling claims and also manages the COA drug development qualification program.



**Mary Ann Pellemounter, Ph.D.**

**Program Director, Division of Translational Research (DTR)**

**National Institute of Neurological Disorders and Stroke (NINDS)**

**National Institutes of Health (NIH)**

Dr. Pellemounter has over 25 years of experience in scientific research and over 20 years of experience in drug discovery and development. Mary Ann's scientific training is in the field of behavioral neuroscience with a focus on age-related cognitive dysfunction, neurodegeneration and neuropharmacology. She received her PhD at the University of Colorado and conducted her post-doctoral research at the University of North Carolina (Chapel Hill) in the laboratory of Dr. Michela Gallagher. Following her post-doctoral work, Dr. Pellemounter focused her research on drug discovery and development in the therapeutic areas of neurodegeneration and neuropsychiatry until the mid-1990s when she shifted her research emphasis to obesity and metabolic disease therapeutics. Since that time, Dr. Pellemounter gradually moved to scientific leadership roles, directing in vivo pharmacology at Neurocrine Biosciences and leading the biology drug discovery effort for obesity therapeutics at Bristol Myers Squibb. During Dr. Pellemounter's tenure as Director of Obesity Therapeutics, her department progressed multiple compounds into clinical development and helped to restructure the focus of their drug discovery efforts to better complement the existing efforts in diabetes and metabolic disease. During her tenure at Bristol Myers Squibb, Dr. Pellemounter also gained experience in drug development, either leading or participating as a project representative on several early clinical development teams. Most recently, Dr. Pellemounter has acted as a consultant in the areas of regulatory documentation, statistical analysis and general drug discovery. Dr. Pellemounter has over 60 published original research articles, reviews and book chapters, is the author of multiple published patents relating to the discovery and use of leptin and has received numerous research grants and awards in the fields of cognition, aging and neuropsychiatry.



**Amanda C. Pustilnik, J.D.**

**Professor of Law**

**Center for Law, Brain and Behavior**

**Massachusetts General Hospital**

**University of Maryland School of Law**

Amanda C. Pustilnik is a Professor of Law at the University of Maryland School of Law, where she teaches Criminal Law, Evidence, and Law & Neuroscience. She is also the 2014-2015 Senior Fellow in Law & Applied Neuroscience at CLBB and The Petrie-Flom Center for Health Law Policy, Biotechnology, and Bioethics at Harvard Law School. Her current research includes work on models of mind in criminal law, evidentiary issues presented by neuroscientific work on memory, and the role of

pain in different legal domains. Prior to joining the University of Maryland, she was a Climenko fellow and lecturer on law at Harvard Law School. Before entering the legal academy, she practiced litigation with Covington & Burling and with Sullivan & Cromwell, where she focused on white collar criminal matters. Prof. Pustilnik also clerked for the Hon. Jose A. Cabranes on the United States Court of Appeals for the Second Circuit. She graduated Yale Law School and Harvard College, and has been a visiting scholar at the University of Cambridge, Emmanuel College, in the History and Philosophy of Science department. Prof. Pustilnik has also worked at McKinsey & Company as a management consultant and is a member of the board of directors of the John Harvard Scholarships.



**William T. Riley, Ph.D.**

**Director, Office of Behavioral and Social Sciences Research (OBSSR)**

**Associate Director, Behavioral and Social Sciences Research (BSSR)**

**Office of the Director (OD)**

**National Institutes of Health (NIH)**

William T. Riley, Ph.D., was appointed Associate Director for Behavioral and Social Sciences Research, and Director of the Office of Behavioral and Social Sciences Research (OBSSR) at the National Institutes of Health (NIH) in August 2015. Under his leadership, the OBSSR instituted its third and current strategic plan [Download PDF \(997 KB\)](#), which reflects key research challenges that the Office is uniquely positioned to address over the next five years, along with four foundational processes to enhance and support these scientific priorities as well as the OBSSR's broader mission.

Since joining the NIH in 2005, Dr. Riley has served in extramural leadership positions at the National Institute of Mental Health (NIMH), the National Heart, Lung, and Blood Institute (NHLBI), and the National Cancer Institute (NCI). He has contributed to several trans-NIH initiatives including serving as Chief Science Officer for the Patient-Reported Outcomes Measurement Information System (PROMIS) and as NIH Interim Deputy Director of the Precision Medicine Initiative (PMI, now called the All of Us Research Program). He has been the recipient of several NIH Director's Awards including recognition for his work on the PROMIS and PMI initiatives.

Dr. Riley received his undergraduate degree in Psychology and Sociology from James Madison University, and his M.S. and Ph.D. in Clinical Psychology from Florida State University. He interned in Medical Psychology at Baylor College of Medicine. He has served on the faculty of the Medical College of Georgia and Virginia Commonwealth University. After 15 years in academic medical schools, he became Director of Research at PICS, Inc., a health behavior research and development firm. Dr. Riley holds an appointment as Professorial Lecturer in the School of Public Health at The George Washington University.

Dr. Riley's research has contributed significantly to the behavioral and social sciences, particularly in the application of digital technologies to behavioral assessment and intervention. Among his over 130 publications, he published the first application of text messaging for smoking cessation, and a

highly cited article on the limitations of current health behavior theories to mobile health (mHealth) interventions.



**Joachim Scholz, M.D.**  
**Associate Medical Director, Emerging Neuroscience**

**Biogen**

Joachim Scholz, MD, was a member of the Task Force for the Classification of Chronic Pain of the International Association for the Study of Pain (IASP). With Nanna B. Finnerup, MD, he served as co-lead for the classification of chronic neuropathic pain. A board-certified neurologist and expert in research and treatment development for pain, Dr. Scholz currently serves as associate medical director at Biogen in Cambridge, MA. Before joining Biogen, he was an assistant professor of anesthesiology and pharmacology at Columbia University Medical Center in New York, NY, and an assistant professor of anesthesiology research and neurology at Harvard Medical School in Boston. Dr. Scholz has received research grants from NIH, the Thompson Family Foundation, and pharmaceutical companies exploring new targets in pain treatment. He has lectured at national and international venues and published numerous peer-reviewed articles on the neurobiology of pain and clinical trial design in neuropathic pain.



**Kristin Schreiber, M.D., Ph.D.**  
**Assistant Professor of Anesthesiology, Perioperative and Pain Medicine**

**Brigham and Women's Hospital**

**Harvard Medical School**

Dr. Kristin Schreiber is a Regional Anesthesiologist and Translational Pain Neuroscientist. Her research focuses on the development of chronic pain after surgical injury, particularly the mechanisms by which individual differences in psychosocial processing and nociceptive sensitivity lead to enhanced pain propensity and longevity in some people, but not others. Using a variety of methods, (quantitative sensory testing, psychosocial testing, fMRI, digital pills), she investigates how non-opioid analgesic techniques (regional anesthesia, yoga-based exercise, placebo, distraction, music, CBT) may modulate pain.



**Wendy B. Smith, M.A. Ph.D., BCB**

**Associate Director**

**Office of Behavioral and Social Sciences Research (OBSSR)**

**Office of the Director (OD)**

**National Institutes of Health (NIH)**

Dr. Smith is the Associate Director in the Office of Behavioral and Social Sciences Research. In this position, she advises the NIH Associate Director for Behavioral and Social Science Research on programmatic and scientific issues particularly related to behavioral and social sciences and interdisciplinary research, public private partnerships, and leads the development of new trans-NIH research initiatives from emerging research opportunities. She joined OBSSR from the Office of the NIH Director, Office of Science Policy where she served as the NIH Program Director for Clinical Research Partnerships. Prior to her roles within the Office of the NIH Director, she served as the inaugural Deputy Director of the National Cancer Institute's Office of Cancer Complementary and Alternative Medicine where she also created and directed the Research Development and Support Program. Dr. Smith earned her MA in the psychology of health, her Ph.D. in Applied-Experimental Psychology and is a licensed experimental psychologist and a nationally-certified biofeedback therapist with advanced training in the use of hypnosis for pain. She left clinical practice to join the National Institutes of Health in 1990 as a Research Psychologist in the intramural research program within the Neurobiology and Anesthesiology Branch, Pain Section at the National Institute for Dental and Craniofacial Research (NIDCR). Dr. Smith is a founding member of the NIH Pain Consortium and her publications include research on pain memory, psychophysics of pain perception, psychological aspects of pain, complementary and alternative medicine and research methodologies.

**Erin Spaniol, O.T., M.P.H.**

**Health Science Policy Analyst**

**Immediate Office of the Director**

**National Institutes of Health (NIH)**

Extensive knowledge and understanding of the NIH extramural and intramural programs and polices; Experienced in planning and conducting policy portfolio analysis and evaluation of biomedical research programs/initiatives; Support the development of the (HEAL) Helping to End Addiction Long-term Initiative, including needs assessments of particular programs and organizational structures; Coordinate the review and evaluation scientific and administrative programs for leadership consideration within the Office of the Director; Communicate highly complex technical material for a broad range of participants including scientists, the public, Congress, other stakeholders.



**Arthur A. Stone, Ph.D.**

**Director, Center for Self-Report Science**

**Professor, Psychology, Economics, and Public Policy**

**University of Southern California**

Arthur A. Stone, Ph.D., Professor of Psychology, directs the Center for Self-Report Science at the University of Southern California. Dr. Stone specializes in the field of behavioral medicine and has conducted studies on stress, coping, physical illness, psychoneuroimmunology, psychoendocrinology, structured emotional writing, well-being and self-report processes. Many of his studies have used diaries and momentary approaches to data capture. Dr. Stone's current research focuses on the properties of momentary data in the context of pain and chronic illnesses. Dr. Stone joined Gallup as a Senior Scientist in 2005. He works with Gallup researchers to explore how employee engagement relates to workers' physical health and well-being. Dr. Stone has authored or coauthored dozens of published works, including *The Science of Self Report* and *The Science of Real-Time Data Capture*. Selected journal contributions include "Understanding Recall of Weekly Pain From a Momentary Assessment Perspective: Absolute Agreement, Between- and Within-Person Consistency, and Judged Change in Weekly Pain"; "A Survey Method for Characterizing Daily Life Experience: The Day Reconstruction Method (DRM)"; and "Variability of Momentary Pain Predicts Recall of Weekly Pain: A Consequence of the Peak (or Salience) Memory Heuristic." Dr. Stone has been an executive council member for the American Psychosomatic Society; a research committee member for the American Psychological Association; and a past president and executive council member of the Academy of Behavioral Medicine Research. His editorial appointments include editor-in-chief for *Health Psychology* and *Annals of Behavioral Medicine*; editorial board member for the *British Journal of Health Psychology* and *Mind/Body Medicine*; and journal reviewer for more than 15 psychology publications. A licensed psychologist, Dr. Stone received his bachelor's degree from Hamilton College and doctorate degree in clinical psychology from Stony Brook University.



**David Thomas, Ph.D.**

**Special Advisor**

**Office of Research on Women's Health (ORWH)**

**Office of the Director (OD)**

**National Institutes of Health (NIH)**

After 12 years as a pain and opioid researcher, Dr. Thomas joined the National Institute on Drug Abuse (NIDA) in 1995, where he has managed much of NIDA's pain and opioid research efforts. He is currently chair of the NIDA Prescription Opioids and Pain workgroup, which fosters pain and opioid research and education. He is also a founding member of the National Institutes of Health (NIH) Pain Consortium, which promotes opioid and pain research across the NIH. He is also a member of the Department of Health and Human Services Behavioral Health Coordination Committee Prescription Opioids Subcommittee, the Emerging Opioid Overdose Strategic Group, the National Pain Strategy working group on Provider Education, and the Interagency Pain Research Coordination Committee.

Dr. Thomas is also the lead on the NIH Pain Consortium Centers of Excellence in Pain Education which is promoting pain education in medical, dental, nursing, pharmacy and other professional schools.



**Dennis C. Turk, Ph.D.**

**Director**

**Center for Pain Research on Impact, Measurement, and Effectiveness (C-PRIME)**

**Department of Anesthesiology and Pain Medicine**

**University of Washington**

Dennis C. Turk, PhD, is the John and Emma Bonica Professor of Anesthesiology and Pain Research and Director of the Center for Pain Research on Impact, Measurement, and Effectiveness at the University of Washington School of Medicine. He is Editor-in-Chief of the Clinical Journal of Pain and a past president of the American Pain Society. Dr. Turk's research focuses on assessment and treatment of patients with a range of chronic pain conditions, coping with and adaptation to chronic illness, clinical decision making, and clinical trial methodology. Widely published, Dr. Turk is the recipient of honors including the John C. Liebeskind Award for Career Contribution to Pain Research from the American Academy of Pain Management and the Wilbert E. Fordyce Clinical Investigator Award and the John and Emma Bonica Public Service Award, both from the American Pain Society.



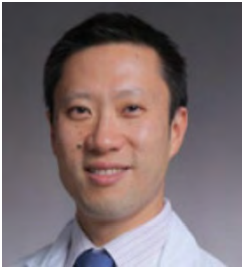
**Christin Veasley, B.S.**

**Co-founder and Director**

**Chronic Pain Research Alliance**

Christin Veasley is Co-founder and Director of the Chronic Pain Research Alliance. Chris has lived with life-altering chronic pain since surviving a near-fatal accident in her teens. Her childhood health experiences led her to pursue a science degree, time conducting neuroscience research at Johns Hopkins Medical School and to the research advocacy community. As one of millions of Americans living with debilitating chronic pain, she knows first-hand how critical it is for organizations to partner - not only to expedite scientific discoveries, but to translate those discoveries into meaningful clinical change for the affected. As such, Chris has spent her life advocating for the improvement and acceleration of rigorous multidisciplinary pain research. Chris also serves as a member of several other collaborative alliances, federal committees/initiatives, and public-private partnerships working to promote pain research, education, treatment and prevention.





**Jing Wang, M.D., Ph.D.**

**Valentino D.B. Mazzia MD, JD Associate Professor**

**Director, Integrated Pain Program**

**Vice Chair for Clinical and Translational Research**

**Department of Anesthesiology, Perioperative Care and Pain Medicine**

**New York University School of Medicine**

My research is centered on the role of brain circuits in the regulation of acute and chronic pain. One of our research areas is the cortical mechanisms of pain processing and regulation. We have recently discovered that glutamatergic projections from the prefrontal cortex to the nucleus accumbens modulate acute and persistent postoperative pain in rodent models. We are currently performing pre-clinical and clinical investigations of pharmacological agents, such as ketamine, that alter glutamate signaling for the treatment of postoperative pain. Another area of focus in our laboratory is the use of computational methods to decode pain in the brain and to implement a brain-machine interface (BMI) to treat pain in real-time. We have successfully decoded both the onset and intensity of acute pain in rodents using supervised and unsupervised machine learning algorithms, and we have constructed prototype BMIs to demonstrate analgesic capability. We are currently working on identifying neural biomarkers for spontaneous pain and chronic pain in patients using EEG signals.