

BIOGRAPHIES

Meeting of the Research Advisory Committee on Veterans' Gulf War Illnesses
RAC-GWVI
Mar 10, 2021

PRESENTERS

James N. Baraniuk, M.D. Dr. Baraniuk is a board-certified physician and Professor of Rheumatology, Immunology, and Allergy and the Director, Bioassay Core, Chronic Pain and Fatigue Research Center at Georgetown University. He is a National and International leader of Gulf War illness, chronic fatigue syndrome, and fibromyalgia with emphasis on pain and neuropathological dysfunction as displayed, in part, by over 170 peer-reviewed manuscripts, solid federal funding, and expert panels he serves, including the high-level distinct panel of Gulf War Illness, Desert Storm after 25 years, co-hosted by the Center for 21st Century Security and Intelligence Brookings. Dr. Baraniuk has established large clinical research databases and biorepositories using multiple big data approaches. Together, his laboratory and collaborative team are using these tools to dissect clinical phenotypes and pathophysiological mechanisms of chronic fatigue syndrome in Veterans with Gulf War illness distinct from control subjects.

Dr. Saurabh Chatterjee Dr. Chatterjee is currently a senior associate professor at the Departments of Environmental Health Sciences and Pathology, Microbiology and Immunology at the University of South Carolina. He has published 76 peer reviewed publications in his career in high impact journals in his field. He has received numerous awards in his career including the SOT Outstanding Immunotoxicologist award and the University of South Carolina Breakthrough Scholar award. He currently leads of a team of researchers consisting of 3 PhD students and 3 postdoctoral researchers. Dr. Chatterjee's long-term objective is to examine the molecular mechanisms of Gut-Liver and Gut-Brain axes with emphasis on systemic inflammation in Gastrointestinal disturbances (GI), Gulf War Veterans Illness (GWVI), nonalcoholic fatty liver disease (NAFLD) and nonalcoholic steatohepatitis (NASH) with metabolic deregulation in the liver, kidney, and other peripheral organs. Dr. Chatterjee's laboratory is actively engaged to pursue cutting edge research in gut microbiome and discovering novel checkpoints and biomolecules for prevention and therapy of GWVI and NAFLD. The current focus of Dr. Chatterjee's research is on Gut microbiome dysbiosis using cutting edge Next Generation Sequencing (NGS) and metagenomics techniques and microbiome associated therapeutic options in systemic inflammation of GWVI. GWVI persistence enabled Dr. Chatterjee to identify the novel key for the Gut-Brain axis in illnesses and persistence. He was able to make significant contributions to the field of immunotoxicity in pro-inflammatory disease processes like heat stroke, sepsis and inflammatory liver disease, especially nonalcoholic steatohepatitis, Kidney inflammation, Intestinal inflammation, and Neuroinflammation in GWVI. His experiences at the National Institute of Environmental Health Sciences and Duke University School of Medicine as a postdoctoral researcher greatly enhanced his expertise in inflammatory liver disease in obesity and how the oxidative stress of environmental toxicants cause obesity-induced disease.

Dr. Dane B. Cook is the Director of the Exercise Psychology laboratories at the William S. Middleton Memorial Veterans Hospital and the University of Wisconsin-Madison. He is also the Director of the *Marsh Center for Research in Exercise and Movement* within the Department of Kinesiology at UW-Madison. He received his Master's and Doctoral degrees in Exercise Science at the University of Georgia in Athens, GA and he received post-doctoral training in neuroscience at the University of Medicine and Dentistry in Newark, NJ.

Dr. Cook's research focuses on the relationships between biology and behavior as they relate to acute and chronic exercise, with a specific focus on how exercise influences the central nervous system in both health and disease. Much of Dr. Cook's research uses functional magnetic resonance imaging (fMRI), in conjunction with biological and behavioral outcomes, to understand central nervous system mechanisms of pain and fatigue in patients with fibromyalgia (FM), myalgic encephalomyelitis/ chronic fatigue syndrome (ME/CFS) and veterans with Gulf War illness (GWI). These studies combine exercise science

and brain imaging methods to better understand these diseases. More recently, Dr. Cook's research has begun to incorporate additional biological systems, such as the immune, autonomic, and gut microbiome to better understand how distinct yet related physiological responses interact within disease.

Dr. Cook's research has been funded by the National Institutes of Health, the Department of Defense, and Department of Veterans Affairs. His laboratory is currently testing how acute exercise influences autonomic, immune and brain responses during pain and cognitive challenges – a mechanistic study of post exertion malaise in Gulf War Illness (Merit Review Grant Award: I01CX0011329-01). In a separate project (Merit Review Award: Grant # 1I01CX000383-04), Dr. Cook's lab is examining symptom, physical activity and brain responses to resistance exercise training in Gulf War veterans with chronic musculoskeletal pain. This randomized controlled trial aims to determine whether weight-training is a safe and effective treatment for Veterans with chronic muscle pain and whether treatment effects are related to changes in brain structure and function.

Fiona Crawford, Ph.D. President and CEO, Roskamp Institute; VA Research Career Scientist, James A. Haley Veterans' Hospital; COO, Archer Pharmaceuticals; COO, Bio SRQ; Director, Roskamp Institute Ph.D. Program.

Educational Background: B.S. Honors in Biochemistry and Genetics, Queen's University of Belfast, Northern Ireland; Ph.D. in Medical Genetics, University of London, England.

Research Background: Dr. Crawford's Ph.D. research was carried out in London as a member of the team that identified the first genetic causes of Alzheimer's Disease. Relocating to Florida in 1992 she discovered the "Swedish" mutation, which has been used in innumerable laboratory models of Alzheimer's world-wide. She co- founded the Roskamp Institute, which became a stand-alone research Institute in Sarasota in 2003 and is now home to a staff of more than 60 scientists, clinicians, graduate students and research assistants. Dr. Crawford is the President and CEO of the Roskamp Institute, which is focused on identifying novel treatments for neurodegenerative and neuropsychiatric disorders. In addition to her Alzheimer's research, in the quest for therapeutic targets for neurodegenerative and neurological diseases she has also developed and characterized laboratory models for Traumatic Brain Injury, Posttraumatic Stress Disorder and Gulf War Illness. Her teams use state-of-the-art proteomic and lipidomic technology to identify peripheral biomarkers and molecular targets from these models, with validation in human clinical samples. The successful Roskamp Drug Discovery program has resulted in development of a repurposed novel Alzheimer's drug, which, through the spin-off Archer Pharmaceuticals, was recently successfully evaluated in a Phase III clinical trial in Europe. Dr. Crawford is the COO of Archer Pharmaceuticals, and the COO of Bio SRQ, the Institute's spin-out for-profit contract research organization, and she also directs the novel, laboratory focused, Roskamp Institute Ph.D. program. Dr. Crawford's research programs are funded by the Veterans' Administration, the Department of Defense and the National Institutes of Health, and she has published over 190 peer reviewed research papers.

Beatrice Alexandra Golomb, MD, PhD is a Professor of Medicine at UC San Diego School of Medicine. She has been involved with Gulf War illness since ~1996 and served as the inaugural Scientific Director of the Research Advisory Committee on Gulf War Veterans' Illnesses. Her findings have advanced understanding of exposures, mechanisms, and treatments in Gulf War illness.

Dr. Kathleen Holton is an associate professor in the Department of Health Studies and the Center for Neuroscience and Behavior at American University in Washington DC. She is a nutritional neuroscientist whose research examines the negative effects of food additives on neurological symptoms, as well as the positive protective effects of certain micronutrients on the brain. The main focus of her research is on glutamate, an excitatory neurotransmitter in the brain which is dysregulated in many neurological conditions including chronic pain, migraine, epilepsy, MS, ALS, and psychiatric conditions such as depression, anxiety, PTSD, OCD, and ADHD.

Dr. Nancy Klimas, chair of the Department of Clinical Immunology, and professor in the Dr. Kiran C. Patel College of Osteopathic Medicine, established the Institute for Neuro-Immune Medicine (INIM), at Nova Southeastern University in 2012. In partnership with the Miami Veteran's Administration Medical Center (VAMC) Gulf War Illness (GWI) research program, the INIM is a multi-disciplinary research and clinical institute that takes a systems biology approach to understanding complex medical illnesses, such as Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS) and Gulf War Illness (GWI). Dr. Klimas' research efforts have focused on understanding the pathogenesis and etiology of these complex immune conditions to better understand the underlying mechanisms of disease and to target treatments more effectively. Due to the complexity of understanding the underlying mechanisms of these illnesses, the INIM relies on a computational systems biology approach that can direct clinical laboratory research efforts to become more targeted and efficient. Her research efforts have been groundbreaking and disease mechanisms identified with this approach are currently being targeted with FDA approved pharmaceuticals and undergoing later stage clinical trial investigation.

Dr. Klimas is a diplomat of the American Board of Internal Medicine, a diplomat in Diagnostic Laboratory Immunology, staff physician and Director of Clinical Immunology Research at the Miami VAMC. She has achieved national and international recognition for her research and clinical efforts in multi-symptom disorders, including ME/CFS and GWI. She is the past president of the International Association for CFS and Myalgic Encephalomyelitis (IACFS/ME), a professional organization of clinicians and investigators, and a past member of the Health and Human Services (HHS) CFS Advisory Committee.

Albert Y. Leung, M.D., is a Professor of Anesthesiology and Pain Medicine at the University of California, San Diego, School of Medicine. He is the Director of the Center for Pain and Headache Research at the VA San Diego Healthcare System (VASDHS) and a Research Scientist for the Veteran Medical Research Foundation. His research focuses on the mechanisms and effectiveness of non-invasive brain and peripheral stimulation for nerve function restoration and headache/pain relief. He founded the first Transcranial Magnetic Stimulation (TMS) clinical unit for pain and headache treatment in the VA healthcare system a decade ago. He now directs the Center for TMS at the VASDHS. He leads the Steering Committee for the Joint International Neuromodulation Society and North American Neuromodulation Society Consensus Panel Review and Recommendation for TMS in pain, headaches and co-morbid depression management.

Marco Loggia In 2008 I was awarded a Ph.D. in Neurological Sciences by McGill University in Montreal, QC (Canada). During my graduate studies I had the opportunity to work at the Alan Edwards Centre for Research on Pain (formerly McGill Centre for Research on Pain), under the mentorship of its first director, Prof. M. Catherine Bushnell, a pioneer in the field of human pain imaging. Between 2008 and 2013, I held the position of Research Fellow at Harvard Medical School, Brigham and Women's Hospital and then Massachusetts General Hospital. As of 2013 I am faculty at Harvard Medical School and Massachusetts General Hospital. I am a recipient of the 2013 Early Career Award from the International Association for the Study of Pain (IASP), the 2016 IASP Ulf Lindblom Young Investigator Award for Clinical Science, and the Primary Investigator of several federal and foundation grants, including from the National Institute of Neurological Disorders and Stroke (NINDS/NIH), NIDA, NCCIH and the Department of Defense (DOD).

Lisa M. McAndrew, PhD I am an Associate Professor at the University at Albany and the Research Director and Fellowship Director at the NJ War Related Illness and Injury Study Center. The goal of my translational and patient-centered research is to improve the functioning of veterans with complex post-deployment health concerns (e.g., Gulf War Illness, chronic pain) including to: (1) understand the impact of deployment on physical symptoms and functioning, (2) determine veterans' beliefs about their symptoms and functioning (3) use veterans' beliefs to develop behavioral interventions veterans want to receive (4) discover how to implement these interventions in the VA healthcare system. I have published

48 articles (22 first authored and 9 senior-authored) and have presented over 68 papers at national conferences. At present, I have an h index = 19, and 1,081 citations, including being cited by the National Academy of Medicine. I have been awarded over \$7 million dollars to conduct my research including four VA Merit Awards and a VA Career Development Award.

My research has been translated and disseminated through-out the VA Healthcare System. I am regularly invited to provide national trainings for providers of veterans with complex post-deployment health concerns, including being faculty at the 2019 Training Conference for VA Environmental Health Clinicians and Coordinators. I was the lead author of the clinical section of the VA's Gulf War Research Strategic Research Plan and am on three external advisory committees for research on Gulf War Research including the committee updating the VA/DoD Clinical Practice Guidelines for Chronic Multisymptom Illness (CMI).

Dr. Ashok K. Shetty is Professor and Associate Director at the Institute for Regenerative Medicine, Department of Molecular and Cellular Medicine, Texas A&M University College of Medicine, College Station, Texas, USA. Dr. Shetty received a Ph.D. degree in Neuroscience from the All India Institute of Medical Sciences (AIIMS), New Delhi. Following his postdoctoral research work at Duke University, Dr. Shetty joined the Division of Neurosurgery (Department of Surgery) at Duke University Medical Center as an Assistant Professor in 1995. He became Associate Professor in 1999 and held the position of Professor from 2004 to 2011. Dr. Shetty also served the Durham VA Medical Center as Research Scientist (1999-2011) and the Central Texas Veterans Health Care System as Research Career Scientist (2011-2018). Dr. Shetty joined the faculty at Texas A&M University Health Science Center in July 2011.

Dr. Shetty has received continuous extramural research funding as Principal Investigator for over 24 years from sources such as the National Institutes of Health, Department of Defense, and Department of Veterans Affairs. These include five R01 grant awards and an R21 grant award from the National Institutes of Health (NIH), six Peer-Reviewed Congressionally Directed Medical Research Program (CDMRP) grant awards from the Department of Defense (DOD), and five Merit Review grant awards and two Research Career Scientist Awards from the Department of Veterans Affairs. Grants from the NIH and DOD fund Dr. Shetty's current research.

Dr. Shetty has authored 155 peer-reviewed publications (127 as Senior or First author), and his work has appeared in many top-class journals including Molecular Psychiatry, Proceedings of the National Academy of Sciences (PNAS, USA), Journal of Extracellular Vesicles, Neuropsychopharmacology, Journal of Neuroscience, Stem Cells, Aging Cell, Redox Biology, Progress in Neurobiology, Neuroscience and Biobehavioral Reviews, Pharmacology and Therapeutics, Brain, Behavior and Immunity, EBioMedicine, Journal of Controlled Release, Neurobiology of Aging, Neurobiology of Disease, Neurotherapeutics, Stem Cells Translational Medicine, Epilepsia, and Nature Scientific Reports. Dr. Shetty has received over 12,400 citations (with an h-index of 59) for his published research articles.

Dr. Shetty has the distinction of serving on two different NIH Study Sections as a Chartered Member. These include Clinical Neuroplasticity and Neurotransmitters (CNNT) study section panel from 2004-2008 and Developmental Brain Disorders (DBD) study section panel from 2010-2016. Besides, he has served as a member of over 50 other study section panels of the NIH, Congressionally Directed Medical Research Program of DOD, Maryland State Stem Cell Research Fund, New York State Stem Cell Research Fund and Henry M. Jackson Foundation Regenerative Medicine Program, and the Department of Veterans Affairs. He has also served as a reviewer of grant applications for over 12 international funding agencies.

Dr. Shetty is Co-Editor-in-Chief of the journal, Aging & Disease, and Associate Editor of 7 journals (Journal of Extracellular Vesicles, Frontiers in Neuroscience, Frontiers in Molecular Neuroscience, Frontiers in Neurology, Frontiers in Aging Neuroscience, Neurogenesis, and Neuroscience Insights). Dr. Shetty is also a Member of the Editorial Board for many other international journals, which include Stem Cells, Aging Cell, and Cell Transplantation. Dr. Shetty is a Fellow of the American Society for Neural Transplantation and Repair.