

Jeffrey P. Sutton, M.D., Ph.D., FRCPC



Jeffrey P. Sutton is CEO, President and Institute Director of the National Space Biomedical Research Institute (NSBRI). He holds the Friedkin Chair for Research in Sensory System Integration and Space Medicine at Baylor College of Medicine (BCM), where he is Professor of Medicine and Director of the Center for Space Medicine. He is also an Affiliate Faculty member in the Harvard University – Massachusetts Institute of Technology Division of Health Science and Technology.

Dr. Sutton's career spans research, education, clinical care and administration. As the first full-time President and Institute Director of NSBRI, a position that he has held since 2001, Dr. Sutton has overseen the Institute's maturation into the leading U.S. entity focused on developing solutions to health-related problems associated with human space exploration. The Institute, in partnership with NASA, supports science, technology and education projects at more than 60 universities across the United States. NSBRI also has extensive collaborations with industry, a range of government programs and international partners in the Americas, Europe and Asia. Under Dr. Sutton's directorship, NSBRI has developed and continues to generate important and operationally relevant countermeasures and deliverables to enhance health in space and on Earth.

Dr. Sutton has been instrumental in linking space biomedical research and clinical space medicine internationally. In 2008, he proposed and was subsequently appointed the first Director of the Center for Space Medicine at BCM, the lead institution of NSBRI. The Center establishes an academic home for physician-astronauts and others with expertise in space and medicine, and is developing unique programs, such as the Space Medicine Track, in research, education and clinical training. Together, NSBRI, NASA and the BCM Center for Space Medicine opened a Consolidated Research Facility in 2011 – a national resource of excellence in space biomedical innovation to advance human space exploration and improve life on Earth.

Dr. Sutton's research expertise is in smart medical systems, computational neuroscience and neuroimaging. He has made significant contributions to these fields, including the co-discovery of the *Networks of Networks* model of neocortical computation. In 1995, Dr. Sutton established the Neural Systems Group at the Massachusetts General Hospital and Harvard-MIT Division of Health Sciences and Technology. Advances from Dr. Sutton's laboratory while he was the first Director of the Neural Systems Group from 1995 to 2002 include: the theoretical prediction, and subsequent confirmation by functional MRI (fMRI), of multi-scale embedded cortical networks; novel algorithms for autonomous image segmentation and classification; dynamic systems for motor learning, hierarchical and autonomous system reconfiguration, and smart medical sensor-effector integration; co-development of simultaneous fMRI and electroencephalography capabilities; and near-infrared brain imaging methods for human spaceflight and Earth-based applications.

Dr. Sutton is the author of numerous scholarly publications and has a portfolio of intellectual property, with his scientific endeavors resulting in several start-up companies. He has been the principal investigator on more than \$300M of research grants and cooperative agreements. He

was the first Team Leader of the NSBRI Smart Medical Systems Team from 1999 to 2001, prior to his executive leadership appointments at NSBRI.

With more than 30 years of teaching experience, Dr. Sutton has taught and mentored numerous students in fields as diverse as biophysics, neuroscience and clinical medicine. Under his leadership at NSBRI, innovative and award-winning national and international programs have been established, including: a K-16 Science Teacher Academy and student program for space projects; a National Graduate Education Program in Space Life Sciences; a National Space Biomedical Engineering Apprenticeship Program; a National Postdoctoral Fellowship Program in Space Biomedical Research; a National Space Medicine Clinical Research Training Program; a U.S./Russia Exchange Program for Space Biomedical Research Training; and continuing medical education programs for flight surgeons.

Dr. Sutton was born in New York City and holds an M.D. degree (1982), an M.Sc. in medical science (neuroscience, 1985) and a Ph.D. in theoretical physics (1988), all from the University of Toronto. His internship was in medicine and surgery, with residency and clinical fellowship training at Harvard Medical School. He is a Diplomate of the American Board of Psychiatry and Neurology and a Fellow of the Royal College of Physicians and Surgeons of Canada. Dr. Sutton practiced medicine for 20 years, initially in emergency and family medicine, and later specializing in complex brain disorders at the interface of neurology and psychiatry in adults and children. He was on staff at the Massachusetts General Hospital for 10 years.

Professor Sutton has received numerous accolades, including the NASA Distinguished Public Service Medal, a NASA Space and Life Sciences Directorate Professional Achievement Award, a Diploma from the Institute of Biomedical Problems of the Russian Academy of Sciences, the President's Citation Award from the Society of NASA Flight Surgeons, a National Institutes of Health Scientist Development Award, and national distinguished educator awards, grants and fellowships from the McArthur Foundation, McDonnell-Pew Foundation, U.S. Department of Defense and the Medical Research Council of Canada. He has lectured around the world, served on many distinguished national and international committees and panels, and testified before Congress on multiple occasions.