Heller Lecture - Brian A. Wandell On the Topic of: Surprising stories about the living human brain

Heller Lecture Series in Computational Neuroscience

Prof. Brian A. Wandell

Stanford University

On the Topic of:
Surprising stories about the living human brain

Magnetic resonance imaging makes it possible to measure activity and structure in the living human brain at millimeter scale. I will begin with a few stories about the development of the MRI technology and how scientists have learned to use the technology to measure the brain. Then I will describe some of my experiences measuring brain plasticity, as well as how children learn to use the visual parts of the human brain for reading. My focus will be on some surprises from the last 25 years, involving remarkable patients and advances in understanding the human brain.

Brian A. Wandell is the first Isaac and Madeline Stein Family Professor. He joined the Stanford psychology faculty in 1979 and is a member, by courtesy, of electrical engineering, ophthalmology and radiology departments. Wandell is the founding director of the Stanford Center for Cognitive and Neurobiological Imaging and the deputy director of the Stanford Neurosciences Institute. Wandell’s work in visual neuroscience uses functional, structural and quantitative MRI along with behavior testing and computational modeling to understand the action of the visual portions of the brain. His research centers on vision science, spanning topics from visual disorders and reading development in children, to digital imaging devices and algorithms for both magnetic resonance imaging (MRI) and digital imaging. He is the author of the vision science textbook Foundations of Vision.

In 1987, Wandell won the Troland Research Award from the National Academy of Sciences for his work in color vision. He was made a fellow of the Optical Society of America in 1990; in 1997. In 2007, he was named Electronic Imaging Scientist of the Year by the IS&T/SPIE, and he was awarded the Tillyer Award from the Optical Society of America in 2008. He was elected to the American Academy of Arts and Sciences in 2011, and he received the Oberdorfer Award in Low Vision from the Association for Research in Vision and Ophthalmology in 2012. Wandell was elected to the US National Academy of Sciences in 2003.

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