

BIOGRAPHICAL SKETCH

KEYNOTE SPEAKER: Jeffrey M. Schwartz, M.D.

[Speaker of the Royal College of Physicians and Surgeons of Canada, Region 3 Advisory Committee]

Jeffrey M. Schwartz is a Research Psychiatrist at UCLA School of Medicine and a seminal thinker and researcher in the field of self-directed neuroplasticity. He is the author of over 100 scientific publications in the fields of neuroscience and psychiatry, and several popular books, including *The Mind and the Brain: Neuroplasticity and the Power of Mental Force* and *Brain Lock: Free Yourself from Obsessive-Compulsive Behavior*. His major research interest over the past two decades has been brain imaging/functional neuroanatomy and cognitive-behavioral therapy, with a focus on the pathological mechanisms and psychological treatment of obsessive-compulsive disorder (OCD).

He received an honors degree in philosophy from the University of Rochester, and in the 1970s began to immerse himself in Buddhist philosophy--in particular, the philosophy of mindfulness, or conscious awareness. This is the idea that the mind is an active participant in the world, and the actions of the mind have an effect on the workings of the brain. It became his goal to find a scientific underpinning for the belief that mindfulness affects how the brain works. In the 1990s, at UCLA, he made his key discovery: that a four-step cognitive behavioral therapy he pioneered is capable of changing the activity in a specific brain circuit of patients with obsessive-compulsive disorder, as shown on PET scans.

Dr. Schwartz's most recent academic writing has been in the field of philosophy of mind, specifically on the role of volition in human neurobiology. He was a devoted practitioner of mindfulness meditation in the Pali Buddhist tradition for over thirty years, and has applied principles of that practice to his current devoted practice of Jesus prayer meditation. His strongest current interests are the philosophical theology of Soren Kierkegaard and Dietrich Bonhoeffer, and the role of Christian meditation in enhancing mindful awareness and its effects on mind-brain relations.

Web site:

http://westallen.typepad.com/brains_on_purpose/about_jeffrey_m_schwartz_.html

Some Publications:

Schwartz JM. Mental health, spiritual information, and the power of the mind to shape the brain. In: Harper C. (ed.) **Spiritual Information: 100 Perspectives on Science and Religion**. Philadelphia: Templeton Foundation Press, 2005; pp.389-394.

Schwartz JM, Gulliford EZ, Stier J, Thienemann M. Mindful awareness and self-directed neuroplasticity integrating psychospiritual and biological approaches to mental health with a focus on obsessive-compulsive disorder. In: Mijares SG & Khalsa GS (eds), **The Psychospiritual Clinician's Handbook: Alternative Methods for Understanding and Treating Mental Disorders**. New York: Haworth Press, 2005; pp. 281-300.

Schwartz JM, Stapp HP, Beauregard M. Quantum physics in neuroscience and psychology: a neurophysical model of mind-brain interaction. *Philosophical Transactions of the Royal Society (UK): Biological Sciences*, 2005; 360:1458; 1309-1327. DOI: 10.1098/rstb.2004.1598

Schwartz JM & Clark B. Theravada Buddhist Meditation. In: Shear J (ed), **The Experience of Meditation: Experts Introduce the Major Traditions**. St. Paul, MN: Paragon House, 2006; pp. 119-144.

Price DD, Verne GN, Schwartz JM. Plasticity in brain processing and modulation of pain. **Prog Brain Res**, 2006; 157: 333-352.

Saxena S, Gorbis E, O'Neill J, Baker SK, Mandelkern MA, Maidment KM, Chang s, Salomon N, Brody AL, Schwartz M, London ED. Rapid effects of brief intensive cognitive-behavioral therapy on cerebral glucose metabolism in obsessive-compulsive disorder. **Molecular Psychiatry**, DOI: 10.1038/sj.m;4002134.

KEYNOTE PRESENTATION

Abstract

The Quantum Brain and Self-Directed Neuroplasticity

Neurobiological research generally assumes that brain mechanisms alone will ultimately suffice to explain all psychologically described phenomena. This assumption stems from the idea that all causal mechanisms relevant to neuroscience can be formulated solely in terms of the principles of classic Newtonian physics. Thus, terms having intrinsic experiential content (e.g. 'feeling', 'observing' and 'effort') are not included as primary causal factors. This theoretical perspective is dictated by ideas about the natural world that have been known to be fundamentally incorrect for more than three-quarters of a century. Contemporary physical theory differs profoundly from classic Newtonian physics on the important matter of how the consciousness of human agents enters into the causal dynamics of empirical phenomena. The new quantum principles contradict the older idea that mechanical processes alone can account for all observed empirical data. Contemporary quantum physical theory brings directly and irreducibly into the overall causal structure certain psychologically described choices made by human agents about how they will act. This key development is applicable to neuroscience, and it provides neuroscientists and psychologists with an alternative conceptual framework for describing neural processes. The new framework, and specifically the well described physical principle known as quantum Zeno effect, enable scientists and clinicians to better understand the neuroplastic mechanisms relevant to the growing number of studies demonstrating the capacity of directed attention and mental effort to systematically alter brain function. Clinical and neuropsychological findings from research on obsessive-compulsive disorder, placebo effect, stroke, and normal human psychology will be discussed and elucidated in light on this theoretical paradigm shift.

Learning Objectives:

1. Learn how sufferers with Obsessive Compulsive Disorder can improve symptoms while ameliorating pathological brain circuits
2. Gain a greater understanding of how focused attention can alter brain circuitry
3. Learn how placebo effect is related to effects of expectation on focused attention