

Herbert G. Cohen, MD Memorial Lecture in Neuroethics

The Visible Brain: Where Are We Heading?

Marcus Raichle, PhD

October 19, 2005
4:00 pm - 5:30 pm

The Faculty Club
College of Physicians and Surgeons
630 West 168th Street
New York, NY 10032

The Herbert G. Cohen Memorial Lecture in Neuroethics signifies the generosity of Rhoda Cohen in honor of her husband, Dr. Herbert G. Cohen, as well as her commitment to furthering innovative academic programs. An orthopedic surgeon, Dr. Herb Cohen was a frequent and active participant in Center events who developed a keen interest in neuroethics. The Center feels the great loss of one of our finest supporters and is so honored to remember him and his contribution through this generous grant in his name from the Fanny and Stephen Rosenak Foundation.

Dr. Marcus Raichle, professor of radiology, neurology and neurological surgery, anatomy, and neurobiology at Washington University in St. Louis, presented his work in functional Magnetic Resonance Imaging (fMRI) and Positron Emission Tomography (PET) used to study human brain organization and function in health and disease. He is a pioneer in using PET to map areas of the brain used in specific tasks such as seeing, hearing, and speaking and has been instrumental in providing a vast amount of important information about how the brain performs daily tasks.

During his engrossing lecture, Dr. Raichle outlined studies of normal human brain function and studies of the biological origins of functional brain imaging signals obtained with MRI and PET. He demonstrated how fMRI can be used to determine specific cognitive and emotional functional systems within the normal human brain. He also described studies of patients with psychiatric diseases such as depression and anxiety and showed how imaging is used to determine the system responsible for the disease and the response of these systems to treatment.

Dr. Raichle discussed the ethical implications surrounding the power of brain imaging. Public misunderstandings and misrepresentations about the research findings in neuroscience are prevalent and the lack of precise findings represented by the fMRI or PET images may be difficult to interpret. The dark areas on the fMRI or PET image are not easily understood, especially by lay people who do not have a scientific understanding of how the image was derived. Dr. Raichle pointed out that there is often more going on than the simplistic PET colored or fMRI image reveals as the image that is viewed is, in actuality, the average of many images. Researchers need to be aware of the power of the image and what it represents as they present their findings, especially in areas that carry stigma like depression or schizophrenia.