



Susan M. Bowyer, Ph.D., MEG Physicist

Department of Neurology, Henry Ford Hospital

2799 West Grand Blvd, Detroit, MI 48202

Phone: (313) 916-1075, Fax: (313) 916-0526



sbowyer1@hfhs.org

website: <http://www.megimaging.com>

Dr. Bowyer is a MEG physicist in the Neuromagnetism Lab at the Henry Ford Hospital in Detroit, Michigan. Her research is performed in the department of Neurology using a technique called Magnetoencephalography (MEG). The MEG lab houses a Super conducting quantum interference (SQUID) neuromagnetometer to detect weak magnetic fields from activated neurons inside a patient's brain. She has used MEG to investigate the underlying mechanism of Migraine auras and to detect areas of epileptic activity in patients' cortex for neurosurgeons.

Currently Susan's areas of research include localization of language specific processes involved in reading, cognition, and identifying dyslexia and other learning disorders. She is expanding the utility of MEG in understanding hyper excitability of migraine patients' brains during visual stimulation and utilizing new analytical techniques in the analyses and interpretation of MEG results.

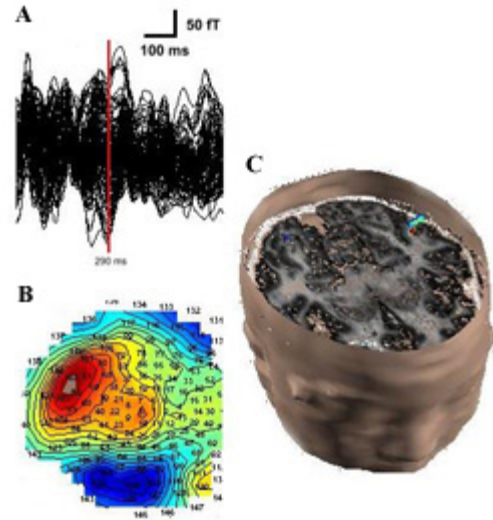


Figure above Susan explaining the MEG test to a subject. Their head is in the MEG array. (A) Brain waves of subject who is silently naming objects. (B) Contour map of current density of neuronal activity in brain (C) Exact location in the brain where cognition occurs.

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