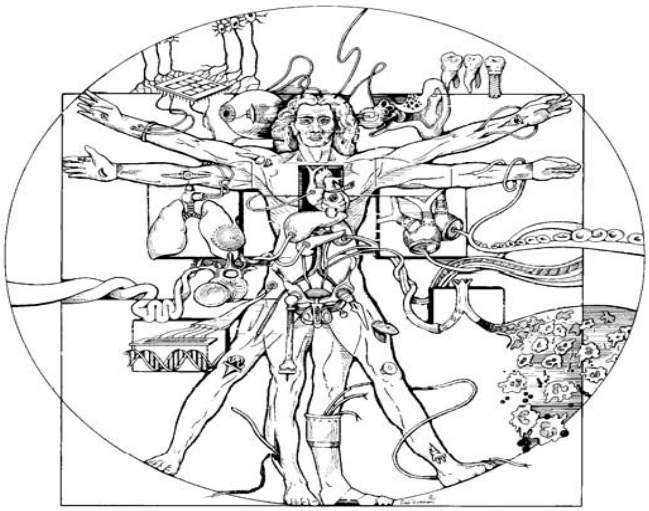
Biomedical Engineering Seminar



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"Compressive Magnetic Resonance Imaging"

Abstract: An emerging theory known as compressive sampling or compressed sensing demonstrates that a very large class of signals can be accurately (or under some conditions exactly) reconstructed from far fewer samples than suggested by the Nyquist-Shannon theory. While the Nyquist-Shannon theory describes sufficient sampling by exploiting the band-limitedness of signals, this new theory defines sufficient sampling conditions based on compressibility of a signal. This remarkable result is expected to have far reaching implications in many fields. This talk will provide a brief overview of the emerging compressive sampling theory, followed by a discussion on how this theory can be applied to magnetic resonance imaging (MRI). Strategies for using compressive sampling theory in several MRI applications, including diffusion-weighted imaging, dynamic contrast-enhanced MRI, and parallel MRI, will be discussed.

Thursday, July 17th, 2008
1:00 pm
Keating 103
Host: Jennifer Barton, Ph.D. (621-4116)

Persons with a disability may request a reasonable accommodation by contacting the Disability Resource Center at 621-3268 (V/TTY). Requests should be made as early as possible to allow time to arrange the accommodation.