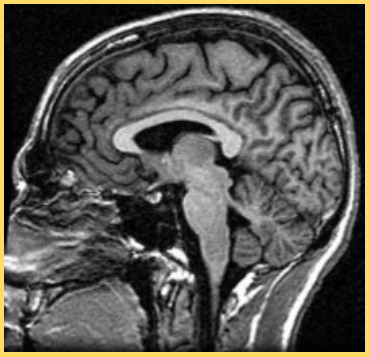
DISTINGUISHED LECTURE SERIES

# EECS COLLOQUIUM

## Fall 2009



**Wednesday**
**October 21**
4:00 - 5:00 pm

306 Soda Hall
Hewlett-Packard
Auditorium

## A Compressed Tour of Compressed Sensing for Rapid Magnetic Resonance Imaging


**Michael Lustig**
**Assistant Professor, Department of Electrical Engineering and Computer Science, UC Berkeley**



***Abstract***

Magnetic Resonance Imaging (MRI) is a non-invasive imaging modality. Unlike Computed Tomography (CT), MRI does not use ionizing radiation. In addition, MRI provides a large number of flexible contrast parameters. These provide excellent soft tissue contrast. Since its invention more than 30 years ago, MRI has improved dramatically both in imaging quality and speed. This has revolutionized the field of diagnostic medicine. Imaging speed is a major part of this revolution as it is essential in many MRI applications. Improvements in MRI hardware and imaging techniques have enabled faster data collection, and hence faster imaging. However, we are currently at the point where fundamental physical and physiological effects limit our ability to simply encode data more quickly.


***Biography***

Michael (Miki) Lustig is a newly appointed Assistant Professor in EECS. He will join the faculty in Spring 2010. He received his Bsc in Electrical Engineering from the Technion, Israel Institute of Technology in 2002. He received his Msc and PhD in Electrical Engineering from Stanford University in 2004 and 2008 respectively. His research focuses on medical imaging, in particular Magnetic Resonance Imaging (MRI). More specifically, the application of compressed sensing to rapid and high-resolution MRI, MRI pulse sequence design, medical image reconstruction, inverse problems in medical imaging and sparse signal representation.

For the full abstract and biography, please go to:
http://www.eecs.berkeley.edu/Colloquium/Archives/09-10/Fall2009/lustig.shtml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