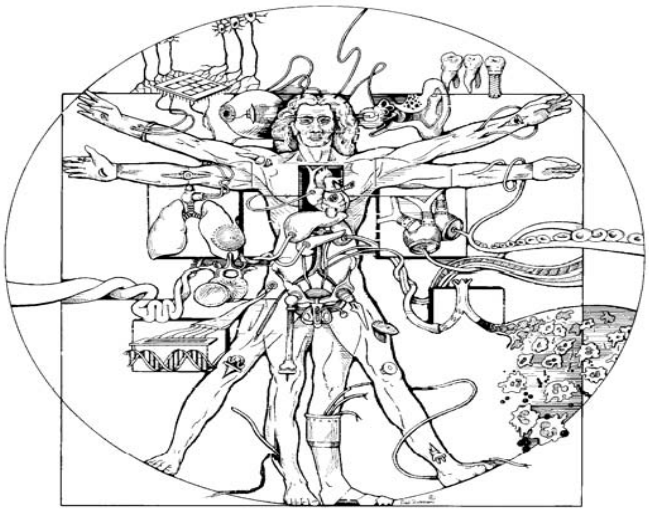
Biomedical Engineering Seminar



Sina Farsiu, Ph.D.

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"Statistical Imaging, Restoration, and Analysis of Digital Images for Clinical and Industrial Applications"

Abstract: Theoretical and practical limitations usually constrain the achievable resolution of any imaging device. Super-Resolution (SR) methods are developed through the years to go beyond this limit by acquiring and fusing several low-resolution images of the same scene, producing a high-resolution image. In this presentation, we review our statistical signal processing based contributions and address two of the main issues related to designing a practical SR system, namely reconstruction accuracy and computational efficiency. While briefly reviewing the applications in consumer electronics, we focus on novel clinical applications such as digital mammography. Furthermore, we discuss an efficient imaging and image reconstruction methodology for enhancing the quality Spectral Domain Optical coherence Tomography (SDOCT) systems with applications in ophthalmic sciences. Finally, we discuss ongoing and future work on image analysis and adaptive SDOCT systems for managing a variety of ophthalmic diseases from age-related macular degeneration to pediatric vitreoretinal surgery.

Monday, August 25, 2008
1:00 pm
Keating 103
Host: Ted Trouard, Ph.D. (626-2177)

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