# **APPLIED MATHEMATICS COLLOQUIUM**

## MATHEMATICAL APPROACHES TO SOME IMAGE PROCESSING AND COMPUTER VISION PROBLEMS

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### **ABSTRACT:**

I'll describe some recent works from our research group at UCLA on mathematical and computational approaches to some image processing and computer vision problems. The applications include denoising, inpainting, segmentation, disocclusion, matting and video tracking. The image domain can be flat or general smooth manifolds. A common mathematical theme is the use of a variational approach, regularizations preserving discontinuities, use of duality, and the important underlying role of geometry.

#### MONDAY, NOVEMBER 19, 2007 4:30 PM Building 4, Room 270

Reception at 4:00 PM in Building 4, Room 174 (Math Majors Lounge)

Applied Math Colloquium: http://www-math.mit.edu/amc/fall07 Math Department: <u>http://www-math.mit.edu</u>

