MICHIGAN STATE UNIVERSITY
Department of Statistics and Probability

SPECIAL LECTURE

Yaniv Plan

Department of Mathematics
University of Michigan

Introduction to Compressed Sensing

Tuesday, August 27, 2013
11:00am – 12:00noon
Refreshments 10:50am
C405 Wells Hall

and

Tuesday, August 27, 2013
2:00pm – 3:00pm
Refreshments 1:50pm
C405 Wells Hall

Abstract

Natural images tend to be compressible. In other words, the amount of information needed to encode an image is small. Can this fact be used when sampling and reconstructing images (such as MRI)? Can the number of measurements needed to reconstruct a signal be comparable to the information content of the signal? Compressed sensing answers with a resounding, “yes!” but with an unusual caveat. If one wants to sample a signal at the information rate, the sampling should be done at random! In the last decade, theoretical and applied researchers have given a solid theoretical backing to this idea. We give an introduction to this theory of compressed sensing and discuss some related problems.

To request an interpreter or other accommodations for people with disabilities, please call the Department of Statistics and Probability at 517-355-9589.