

Friday, April 18, 2014, 4:00

COLLOQUIUM TALK

Speaker: Nigel Boston
University of Wisconsin-Madison

Old Main 2231

Information Inequalities, the Entropic Region, and the Four-Atom Conjecture

Abstract:

Given n discrete random variables, there are $d = 2^n - 1$ joint entropies, forming the entropic region in d -dimensional real space. Describing this region is of fundamental importance and equivalent to a problem in finite group theory. There are always some simple linear inequalities and for $n = 2, 3$ these describe the region. For $n = 4$, the region is curved and still a mystery. One measure, its Ingleton score, was conjectured never to exceed 0.0893733, but this was disproved by Matus and Csirmaz last year. Recently Ting-Ting Nan and I have developed new methods that obtain the currently best known scores. All the above will be explained in down-to-earth terms.

SNACKS IN FACULTY LOUNGE AT 3:30 PM.
EVERYONE WELCOME (EVEN IF YOU ARE UNABLE TO ATTEND THE TALK)
