



CLAREMONT CENTER for  
the MATHEMATICAL SCIENCES

CCMS COLLOQUIUM

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BETTER NUMERICAL INTEGRATION  
THROUGH RANDOMNESS

by

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**ABSTRACT**

Numerical integration in one dimension is easy, even the simpler methods like the trapezoidal rule or Simpson's rule suffice for most problems. However, higher dimensional integrals present a serious difficulty. To approximate them using methods like Simpson's rule requires exponential time in the dimension, an effect known as "The Curse of Dimensionality".

However, problems of this type are common in statistics and combinatorics and integration methods are needed to obtain numerical solutions with the necessary level of accuracy. In this talk I'll present a new approach, called TPA, that uses random choices. I have designed the method and I will discuss some of its applications.

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**Wednesday, November 18, 2009, at 4:15pm**

Millikan 134, Pomona College

**Refreshments served at 3:45 p.m.**

Harry Mullikin Room, Millikan 209

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*The dinner will be hosted by Prof. Susan Martonosi  
If interested in attending, call ext. 70481*