

The Oliver Club

www.math.cornell.edu/~oliver/

Statistical Theory of Quantum Information Processing

Recent advances in quantum information and quantum computation have brought a paradigm shift in the way we think about encoding and manipulating information. A fundamental implication of these developments is that statistics, and stochastics in general, will play a much greater role in quantum theory.

This talk will be introductory in nature, relative to the processing of quantum information. The emphasis will be on mathematical problems encountered when trying to develop new statistical methods there. This involves topics from operator algebra theory and non-commutative probability, as well as from Gaussian processes and statistical decision theory. We will present recent results and point out three main directions to be pursued towards a coherent theory of quantum statistics, not reducible to the classical one.



Madalin Guta

University of Nottingham

Refreshments will be served at 3:55 PM in the Mathematics Department lounge (532 Malott Hall).

**Thursday, September 13, 2007
at 4:25 PM in 406 Malott Hall**