Representation Theory, Geometry & Combinatorics Seminar

Organizer(s): M. Haiman, K. Reshetikhin, D. Hill & J. Sussan

Monday, 1:00–3:00pm, 939 Evans

11/10/2008 **Noah Snyder**, UCB

Quantum Analogues of Finite Groups

If Drinfel'd-Jimbo quantum groups are the quantum analogues of Lie groups, what are the quantum analogues of finite groups? I'll discuss several possible answers to this question and try to summarize recent progress in understanding and classifying small finite quantum groups. In ordinary finite group theory most examples come from Lie theory or from highly transitive group actions (alternating groups and Mathieu groups). Similarly in finite quantum groups most examples come from Lie theory (quantum groups at roots of unity) or analogues of highly transitive group actions which are related to subfactor theory. I'll also discuss the fledgling "Atlas of subfactors and fusion categories" project (joint with Scott Morrison and Emily Peters) to automate the search for new small finite quantum groups.