

Representation Theory, Geometry & Combinatorics Seminar

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

Monday, 1:00–3:00pm, 939 Evans

10/6/08 **Aaron Lauda**, Columbia University
Categorifying Quantum Groups

I will explain how to categorify the quantized enveloping algebra for quantum $\mathfrak{sl}(2)$ using a graphical calculus. This categorification acts on cohomology rings of partial flag varieties resulting in categorification of the action of quantum $\mathfrak{sl}(2)$ on its irreducible representations. If time permits I will also explain joint work with Mikhail Khovanov generalizing this work to $\mathfrak{sl}(n)$.