The Math Colloquium
Department of Mathematics
San José State University

Sarah Witherspoon

Texas A&M (visiting MSRI)

Noncommutative Algebra and Geometry

April 17, 2013, MH320

Abstract: Many mathematical and physical settings involve operations that do not commute, such as matrix multiplication, or the measurement of position and momentum in quantum mechanics. In this talk we will look at some mathematical settings expressing this physical phenomenon, focusing primarily on the "quantum" polynomials that we will define. Quantum polynomials behave much like ordinary polynomials, but they do not in general commute with each other. We will explore what changes and what stays the same when computing with quantum polynomials, encountering quantum integers and quantum binomial coefficients on the way, as well as related geometry.

Background: Requires only some "mathematical maturity" (e.g., Math 108); experience with abstract algebra would also be helpful.

About the speaker: Sarah Witherspoon received her PhD from the University of Chicago and is now a Professor at Texas A&M University. This semester she is visiting the Mathematical Sciences Research Institute and participating in the programs in Commutative Algebra and Noncommutative Algebraic Geometry/Representation Theory.

Snacks in MH331B at 2:30 pm
Talk starts at 3 pm

For more information, see our full schedule at:

`http://www.math.sjsu.edu/~hsu/colloq/`