Graduate Seminar in Mathematics

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**Thursday, February 4th, 2016
HH-3017, 1:00p.m.**

What is a Hopf algebra?

Abstract:

A Hopf algebra is an algebra for which one can form the tensor product of two modules. Hopf algebras arose originally in algebraic topology, but have now made an appearance in many areas of mathematics, such as the theory of algebraic groups, the duality theory for topological groups, various places in Lie theory, and combinatorics. They have even been applied to physics, namely to the theory of exactly solvable models in statistical mechanics, conformal field theory, and the theory of renormalization. In the talk, we explain what exactly a Hopf algebra is and then discuss various examples, in particular universal enveloping algebras and their deformations.