

## Quantum Topology / Hopf Algebra Seminar

### *Three Variants of Welded Knot Theory*

Jonathan Schneider (UIC)

**Abstract:** Welded Knot Theory was originally conceived by Rourke & Fenn in terms of (framed) braids, and was subsequently expanded by Kauffman, Rourke and Fenn into a quotient of Virtual Knot Theory. Satoh and Rourke have shown that the theory is modeled by toral surfaces or fiberwise-embedded toral surfaces. The latter model, however, requires a slight refinement of the theory, which we call “Roto-Welded Knot Theory”. This refinement omits the virtual I-move, and thus represents a partial return to the original braid concept. In this talk I will compare Welded, Roto-Welded, and Framed Welded Knot Theories. In particular, only Roto-Welded admits a proven complete topological model.

Tuesday, April 23 at 3:00 PM in 612 SEO