1019-57-218   **Christopher M. Herald***, Dept of Math and Stat, MS084, University of Nevada, Reno, Reno, NV 89557. *Moduli space transversality for knot complements.* Preliminary report.

The SU(n) flat moduli space of a knot complement is a potential source of knot invariants. The SU(2) moduli space, for example, has been related to the equivariant knot signature and has been used to describe fixed-meridinal holonomy knot Floer homology and equivariant Casson invariants of branched covers. In addition, the SU(n) moduli space of knot complements must be understood in order to see how gauge theoretic Casson invariants behave under Dehn surgery.

Both the basic Kuranishi model and the effect of holonomy perturbations on the moduli space are more complicated on 3-manifolds with boundary than on closed 3-manifolds. This talk will discuss work in progress on transversality for the SU(n) moduli space for knot complements, that is, a method for perturbing that produces moduli spaces with a reasonable stratified structure. (Received August 15, 2006)