1025-57-124 **Craig Jackson*** (jackson@math.uchicago.edu). *Nilpotent Slices, Hilbert Schemes, and Symplectic Link Invariants.*

Seidel and Smith use the Slodowy slice of a distinguished nilpotent orbit in $\mathfrak{sl}_{2m}(\mathbb{C})$ to construct a symplectic fiber bundle over configuration space. They define a *symplectic Khovanov cohomology* as the Floer cohomology $HF^*(L, \beta L)$, where L is a Lagrangian in the symplectic fiber $\mathcal{Y}$ and a braid β acts on L via monodromy.

Ciprian Manolescu has shown that the fibers $\mathcal{Y}$ actually embed holomorphically into the Hilbert scheme of n points over a complex surface, the Milnor fiber of the A_{2m-1} singularity. This gives a more natural definition of the symplectic structure on $\mathcal{Y}$. It also leads to a more concrete presentation of the Lagrangians and, correspondingly, the generators of $HF^*(L, \beta L)$.

I will talk about how to construct Manolescu-type embeddings for the other classical algebras: $\mathfrak{sp}_{2m}(\mathbb{C})$ and $\mathfrak{so}_k(\mathbb{C})$. I will discuss the geometry of the symplectic fiber bundles constructed from these embeddings as well as the potential for finding analogues of Seidel and Smith's link invariant. (Received January 19, 2007)