

Northern California Symplectic Geometry Seminar

BERKELEY – DAVIS – SANTA CRUZ – STANFORD

Monday, March 3, 2008
at **Berkeley**, 105 Latimer Hall (southeast of Evans Hall)

2:30–3:30 — **Jason Lotay (MSRI)**

“Lagrangian submanifolds of the almost symplectic 6-sphere”

Abstract: There is a non-degenerate 2-form on S^6 , which is compatible with the almost complex structure that S^6 inherits from its inclusion in the imaginary octonions. Even though this 2-form is not closed, we may still define Lagrangian submanifolds. Surprisingly, they are automatically minimal and are related to calibrated geometry. This talk will be a survey of results in the field.

3:30–4:15 — Tea Break

4:15–5:15 — **Kai Cieliebak (Universität München)**

“Knot invariants from contact homology and string topology”

Abstract: To any smooth knot in 3-space one can associate an invariant by taking the Legendrian contact homology of its unit conormal bundle. Motivated by this construction, Lenny Ng defined a purely combinatorial knot invariant he calls the cord algebra, and showed that it is both computable and powerful (e.g. it distinguishes the unknot). In joint work with Ekholm, Latschev and Ng we prove that the cord algebra really equals the Legendrian contact homology. The goal of this talk is to explain this proof, which consists in relating both invariants to a third invariant based on a string topology construction. This construction also sheds new light on the cord algebra: e.g. it yields a simple topological proof that the cord algebra distinguishes the unknot.

There will be a dinner at 6pm.

Please contact alanw@math.berkeley.edu to arrange parking.

—Y. Eliashberg
D. Fuchs
V. Ginzburg
E. Ionel
R. Montgomery
A. Weinstein