

Northern California Symplectic Geometry Seminar

BERKELEY – DAVIS – SANTA CRUZ – STANFORD

Monday, December 3
at **Berkeley**, 2307 Tolman Hall (near NW corner of campus)

2:30–3:30 — Dan Rutherford, UC Davis

“Generating families and invariants of Legendrian knots”

Abstract: Legendrian knots in the 1-jet space of the real line have in addition to their topological knot type two classical invariants known as the Thurston-Bennequin and rotation numbers. Over the past decade several invariants have been developed which are capable of distinguishing between knots with identical classical invariants. The purpose of this talk is to describe interesting relationships between some of these new invariants. Major players in this talk are the Chekanov-Eliashberg DGA and related objects, as well as combinatorial structures on front diagrams and homological invariants arising from the theory of generating families (due to Chekanov-Pushkar, Fuchs, and Traynor).

Our main new result is that, when a Legendrian knot is defined by a generating family, homology groups obtained by linearizing the Chekanov-Eliashberg DGA are isomorphic to the homology of a pair of spaces associated with the generating family.

This is joint work with Dmitry Fuchs.

3:30–4:15 — Tea Break

4:15–5:15 — Mina Aganagic (UC Berkeley)

“Large N duality, black holes and Gromov-Witten theory”

Abstract: I will describe a version of Large N duality conjectured to relate Donaldson-Thomas and Gromov-Witten theories. I will also discuss recent explicit checks of this conjecture.

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