Northern California
Symplectic Geometry Seminar
Berkeley – Davis – Santa Cruz – Stanford

Monday, April 14, at Stanford

2:30–3:30, room 383N, Sam Lisi (Stanford)
“Energy quantization for bubbling-off of generalized pseudoholomorphic curves”

Abstract: For any choice of contact form, tight $S^3$ admits a finite energy foliation by pseudoholomorphic punctured spheres, whose projections to $S^3$ are transverse to the Reeb vector field. This has many dynamical consequences for the Reeb flow. In order to obtain such a finite energy foliation by curves with genus, it is necessary to modify the pseudoholomorphic curve equation by introducing a harmonic form. The resulting equation gives a nice Fredholm problem, but requires a new compactness theory. We will see some examples of the ways in which these curves behave differently from pseudoholomorphic curves. We will show an energy threshold result, a first step towards a description of the compactness properties of these curves.

This is joint work with Casim Abbas and Helmut Hofer.

3:30–4:00 — Tea Break, 2nd floor lounge

4:00–5:00, room 383N, Henrique Bursztyn (IMPA)
“Reduction in generalized complex geometry”

Abstract: Generalized complex structures, introduced by Hitchin in 2003, interpolate between symplectic and complex structures. In this talk, I will discuss a reduction procedure for these geometrical structures unifying symplectic/Hamiltonian reduction and holomorphic quotients. In general, this reduction procedure presents new features that will be illustrated in examples (e.g., the generalized reduction of a symplectic structure can be complex, and 3-form twists can appear in the quotient).

If time permits, I will also discuss generalized Kahler reduction, as well as a super-geometric viewpoint to generalized reduction.

Please contact ionel@math.stanford.edu to arrange parking.
There will be a dinner at 6pm.

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