Northern California
Symplectic Geometry Seminar
BERKELEY – DAVIS – SANTA CRUZ – STANFORD
Monday, February 7, 2011
BERKELEY, Room 736 Evans Hall

2:30–3:30
Sikimeti Ma’u (MSRI)
“Bimodules and Lagrangian correspondences”

I’ll describe some A-infinity module structure associated to Lagrangians, Lagrangian correspondences, and quilted Floer chain groups. The algebra can be described pictorially in terms of quilted strips with markings, which are types of graph associahedra. Since these pictures can also be viewed as domains for holomorphic quilts (a la Wehrheim-Woodward), they translate (in favorable conditions) into A-infinity structure on target symplectic manifolds and their products. One algebraic consequence is an A-infinity functor from $\text{Fuk}(M \times N)$ to $\text{Bimod}(\text{Fuk}(M), \text{Fuk}(N))$, associating Lagrangian correspondences between $M$ and $N$ with bimodules of the respective Fukaya categories. Another algebraic consequence of module structures is a recipe for spectral sequences involving complexes of Floer homology groups (special cases of which include long exact sequences).

3:30–4:00 in 1015 Evans Hall
Tea break

4:15–5:15
Sonja Hohloch (Stanford)
“Infinite dimensional Hamiltonian systems and hyperkähler Floer theory”

We interpret hyperkähler Floer homology as an infinite dimensional Hamiltonian system on the twice iterated loop space and study some of its properties.

Please contact alanw@math.berkeley.edu as soon as possible to arrange parking.
There will be a dinner at 6pm

—D. Auroux, Y. Eliashberg, D. Fuchs, V. Ginzburg, M. Hutchings, E. Ionel, R. Montgomery, A. Weinstein