Northern California Symplectic Geometry Seminar

Berkeley – Davis – Santa Cruz – Stanford

Monday, May 6, 2024

at Berkeley

2:30–3:30, room 736 Evans

Kai Cieliebak (Augsburg University)

Symplectic geometry of Anosov flows

Abstract: Every Anosov flow on a closed oriented three-manifold gives rise to a four-dimensional Liouville domain, whose Liouville homotopy class depends only on the homotopy class of the Anosov flow. The goal of this talk is to explain this construction and discuss geometric properties of the resulting Liouville domains. This is joint work with Oleg Lazarev, Thomas Massoni, and Agustin Moreno.

3:30–4:00 — Tea Break

4:00–5:00, room 736 Evans

Mohammed Abouzaid (Stanford)

Commutative rings from Fukaya categories

Abstract: Subotic was the first to implement the construction of a Floer-theoretic mirror to the tensor product of coherent sheaves on algebraic varieties, via Lagrangian correspondences. His thesis was concerned with the case of the 2-torus, but it is clear that it can be implemented more generally for manifolds admitting smooth torus fibrations. In this lecture, I will discuss ongoing joint work with Nate Bottman as well as with Yunpeng Niu on extending this construction to the first cases in which non-trivial singularities can appear, including that of K3 surfaces. The construction has intriguing potential consequences for mirror symmetry with coefficients in the sphere spectrum.

There will be dinner in downtown Berkeley following the talks.

Organizers: M. Abouzaid, R. Casals, Y. Eliashberg, D. Fuchs, V. Ginzburg, M. Hutchings, E. Ionel, R. Montgomery, V. Shende, L. Starkston, K. Wehrheim, A. Weinstein