

Northern California Symplectic Geometry Seminar

BERKELEY – DAVIS – SANTA CRUZ – STANFORD

Monday, March 3rd, 2025

at Stanford

2:30–3:30pm, room 384H

Jean Gutt (IAS and Toulouse Univ)

Ekeland-Hofer capacities from positive S^1 equivariant symplectic homology

Abstract: Associated to a star-shaped domain in \mathbb{R}^{2n} are two increasing sequences of capacities: the Ekeland-Hofer capacities and the so-called Gutt-Hutchings capacities. I shall recall both constructions and then present the main theorem that they are the same. This is joint work with Vinicius Ramos.

3:30–4:00pm — Tea Break

4:00–5:00pm, room 383N

Constantin Teleman (UC Berkeley)

Integral Kirwan formality and surjectivity

Abstract: Relying on Morse theory and an Euler class argument of Atiyah and Bott, Frances Kirwan proved two important results about the rational cohomology of compact symplectic manifold X with the Hamiltonian action of a connected, compact group G : equivariant formality, or the triviality of the G -action on the $H^*(X; \mathbb{Q})$, and the surjectivity of the natural restriction map $H_G^*(X; \mathbb{Q}) \rightarrow H^*(X//G; \mathbb{Q})$ (when the latter symplectic quotient is an orbifold). In this slightly ‘retro’ talk, I will explain an integral (and even stable homotopy) improvement of these results, subject to natural restrictions. This is joint work with Dan Pomerleano (and is based on older ideas of Harada-Landweber and related results of Bai-Pomerleano).