

Northern California Symplectic Geometry Seminar

BERKELEY – DAVIS – SANTA CRUZ – STANFORD

Monday, March 2nd, at **Stanford**

2:30–3:30pm, room 383N, **Michail Zhitomirskii** (Technion, visiting UCSC)

“Local symplectic and contact algebras and algebraic restrictions of differential form”

Abstract: The definition of the algebraic restriction of a differential form to a singular variety gives an immediate explanation of so called ghost invariants in local symplectic and contact algebras discovered by V. Arnol’d in 1999 (the ghost invariants are the algebraic restrictions modulo the usual geometric restrictions). The algebraic restriction is a powerful tool for various local classification problems in a symplectic or contact space.

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

4:00–5:00pm, room 383N, **Dimitri Zvonkine** (CNRS, visiting Stanford)

“Completed cycles: from representations of the symmetric group to Gromov-Witten invariants of curves and Thom polynomials of singularities”

Abstract: For every family of genus 0 stable maps to $\mathbb{C}P^1$ we can consider the locus of points where the map presents some given kind of singularity (chosen from the list of all possible singularities for genus 0 stable maps). We provide an effective method to compute the cohomology class Poincare dual to this locus in terms of several “basic” classes. These expressions are universal, i.e., they do not depend on the family. They are called (generalized) Thom polynomials.

In the second part of the talk, insofar as time permits, we will present several conjectures concerning Thom polynomials for genus g stable maps. They are related to the representation theory of the symmetric group (more precisely, to the so-called completed cycles), to the Gromov-Witten invariants of curves and to a conjectural ELSV formula for the space of r -spin structures.

Please contact ionel@math.stanford.edu to arrange parking.

There will be a dinner at 6pm.

organizers: Y. Eliashberg, D. Fuchs, V. Ginzburg, E. Ionel, R. Montgomery, A. Weinstein