Symplectic Geometry Seminar

Monday, Feb 11
4:00pm-5:00pm, room 383N

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Constructing the virtual fundamental class
without transversality

Abstract: We discuss an approach to defining the virtual fundamental class of a moduli space of J-holomorphic curves which is not necessarily cut out transversally. The strategy is mostly classical: we describe the desired moduli space locally as the zero set of a section of a real vector bundle over topological manifold, and give appropriate gluing data between these local charts (and we call such a structure on a moduli space an ”implicit atlas”). To motivate the abstract definition of an implicit atlas, I will use the example of the moduli space of stable maps as considered in Gromov–Witten theory and construct an implicit atlas in this case. I will then describe how the fundamental class is constructed from the implicit atlas (which makes no reference to where the original moduli problem came from).