Legendrian knots and Heegaard Floer homologies

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Using the language of Heegaard Floer homology recently two different invariants were defined for Legendrian and transverse knots in a contact 3–manifold. Both of them arises from the generalization of the contact invariant in Heegaard Floer homology. The Legendrian invariant defined by Lisca, Ozsváth, Stipsicz and Szabó takes its values in knot Floer homology, while the other one is in the sutured Floer homology, defined as the EH-class of Honda, Kazez and Matic for the complement of a Legendrian knot. In this talk I will give a brief description of both of these invariants, and describe their relation. As a corollary we will obtain, that the Legendrian invariant vanishes for knots having Giroux-torsion in their complement. This is joint work with András Stipsicz.

3:30 p.m.
Math 520
Columbia University