1073-57-146 **Olga Plamenevskaya*** (olga@math.sunysb.edu), Department of Mathematics, Stony Brook University, Stony Brook, NY 11794. *Knot Floer homology and tight contact structures.*

Ozsvath-Szabo contact invariants can be used in several different ways to establish tightness of contact 3-manifolds. For example, contact surgery techniques and examination of cobordism maps on Heegaard Floer homology was used by Lisca-Stipsicz to construct tight contact structures on many Seifert fibered spaces. For an alternative approach, we focus on the relation of the contact invariants and the knot Floer homology of the binding of an open book compatible with the contact structure. We show that if an open book decomposition (Y,K) induces a contact structure with non-vanishing Ozsvath-Szabo invariant, then all manifolds obtained by sufficiently large surgeries on K carry tight contact structures. This produces tight contact structures on some hyperbolic manifolds without taut foliations. (Joint with M. Hedden.) (Received July 31, 2011)