ZHANG JUN, University of Montreal
Quantitative Lagrangian embeddings

Symplectic embedding between domains is a central problem in symplectic geometry. In this talk, we will discuss a different type of embedding - Lagrangian embedding, as well as its resulting obstructions to symplectic embeddings of basic domains (for instance, symplectic embeddings from 4-dimensional polydiscs to ellipsoids). The key tool is the shape invariant, a collection of quantitative data (called area classes) of Lagrangian embeddings. The main theorem in this talk is a computational result of the shape invariant of a large family of 4-dimensional ellipsoids. The computation is based on the symplectic field theory (SFT) and embedded contact homology (ECH) theory. This talk is based on joint work with Richard Hind.