Special Colloquium

Lenny Ng
Duke University

Studying topology through symplectic geometry

Abstract:
Symplectic geometry has recently emerged as a key tool in the study of low-dimensional topology. One approach, championed by Arnol’d, is to examine the topology of a smooth manifold through the symplectic geometry of its cotangent bundle, building on the familiar concept of phase space from classical mechanics. I’ll describe a way to use this approach to construct a rather powerful invariant of knots called ”knot contact homology”, and discuss its properties. If time permits, I’ll also outline a surprising connection to string theory and mirror symmetry.

Host: Dragos Oprea

Thursday, January 21, 2016
4:00 PM
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