

Schedule of Short Talks on Thursday 08/02.

2:45	Beyaz
3:15	Kawamuro
3:45	Bhupal
4:15	Xu
4:45	Kaloti
5:15	Hohloch
5:45	Durusoy

Ahmet Beyaz

Genus Zero J-holomorphic Curves in Dimension Six

Abstract: This talk is about the count of genus zero curves of manifolds of type $X \times S^2$ where X is a symplectic 4-manifold.

Keiko Kawamuro

Open Book Foliation and Applications

Abstract: Open book foliation is a singular foliation on a surface in an open book manifold. Using the Giroux-correspondence between open books and contact manifolds, the open book foliation has interesting applications to contact geometry. I will list applications, including a new tightness criterion in terms of the fractional Dehn twist coefficient of open book, the braid theoretic self-linking number formula of transverse links. It also has applications to topology/geometry of 3-manifolds. For instance, using open book foliation technique, we can show that Thurston-Nielsen type of a monodromy can determine geometry of the open book manifold.

Mohan Bhupal

Smoothings of Singularities and Symplectic Topology

Abstract: I will give a survey of the symplectic methods which have been applied in the classification of weighted homogeneous singularities with rational homology disk smoothings. In many cases these smoothings are unique up to symplectic deformation. Also, if time allows, I will discuss how one can obtain Kirby diagrams of some of the smoothings.

Guangbo Xu

Morse Homology for Lagrange Multipliers and Adiabatic Limits.

Abstract: Given two Morse functions f, μ on a compact manifold M , we define the Lagrange multiplier function F on $M \times \mathbb{R}$ sending (x, t) to $f(x) + t\mu(x)$. Consider the Morse chain complex for F and a product metric. We rescale the metric on the \mathbb{R} -component to the two extremes. The two limits give geometrically quite different chain complexes but they are quasi-isomorphic, whose homology are just the homology of the hypersurface $\mu = 0$. This is a joint work with Stephen Schecter.

Amey Kaloti

Stein Fillings of Lens Spaces.

Abstract: Classifying Stein fillings of contact manifolds has been a very active area of research. In this talk we will try to classify Stein fillings of contact structures on lens spaces $L((n+1)p - n, n+1)$ for any positive integers n and p .

Sonja Hohloch

Higher Morse Moduli Spaces and n -Categories.

Abstract: Given a closed manifold, take a Morse function and consider the compactified moduli spaces between its critical points. Under suitable assumptions, these moduli spaces are compact manifolds with corners. Thus, one can choose a Morse function on such a moduli space and repeat the procedure... We will show how this yields an n -category.

Daniel Selahi Durusoy

The Crowell State Space is Connected

Abstract: R. H. Crowell has introduced a state sum formula for the Alexander polynomial of alternating knots in his article published in 1959. In this talk I will describe this space, compare its properties with the Kauffman state space and give a proof that this space is connected under a natural move.