

**The Mathematics Research Center  
Distinguished Lecture Series  
Presents:**



**Professor John Pardon, Princeton University**

**Friday, January 11<sup>th</sup>, 2019, 4:00 – 5:00 pm – Room 380C – MRC Distinguished Lecture**

**Title: Smoothing finite group actions on three-manifolds**

Abstract: There exist continuous finite group actions on three-manifolds which are not smoothable, in the sense that they are not smooth with respect to any smooth structure. For example, Bing constructed an involution of the three-sphere whose fixed set is a wildly embedded two-sphere. However, one can still ask whether every continuous finite group action on a three-manifold can be uniformly approximated by a smooth action. We outline an approach to answering this question in the affirmative, based on the author's work on the Hilbert–Smith conjecture in dimension three..

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**Monday, January 14<sup>th</sup>, 2019 4:30 –5:30 pm Room 383N - MRC Distinguished Lecture**

**Please note there will be a Special Tea: 3:30 – 4:30, 4<sup>th</sup> Floor Lounge**

**Title: Partially wrapped Fukaya categories of cotangent bundles**

Abstract: The partially wrapped Fukaya category is a very interesting invariant of non-compact symplectic manifolds. I will show how to identify the partially wrapped Fukaya category of a cotangent bundle with a certain category of sheaves. A considerable amount of subanalytic geometry and a bit of algebraic topology enters the picture. This is joint work with Sheel Ganatra and Vivek Shende.

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**Friday, Jan 18<sup>th</sup>, 2019, 4:00 – 5:00 pm – Room 384H – Special Seminar Talk**

**Title: Structural results in wrapped Floer theory**

Abstract: I will discuss results relating different partially wrapped Fukaya categories. These include a Künneth formula, a 'stop removal' result relating partially wrapped Fukaya categories relative to different stops, and a gluing formula for wrapped Fukaya categories. The techniques also lead to generation results for Weinstein manifolds and for Lefschetz fibrations. The methods are mainly geometric, and the key underlying Floer theoretic fact is an exact triangle in the Fukaya category associated to Lagrangian surgery along a short Reeb chord at infinity. This is joint work with Sheel Ganatra and Vivek Shende.