

# Topology Seminar

**Jianfeng Lin and Zhouli Xu**

of MIT will be speaking on

## The $Pin(2)$ -Equivariant Mahowald Invariant

on October 29 at 4:30 in  
MIT Room 4-153

The existence of  $Pin(2)$ -equivariant stable maps between representation spheres has deep applications in 4-dimensional topology. We will sketch the proof for our main result on the  $Pin(2)$ -equivariant Mahowald invariants.

More specifically, we will discuss the  $Pin(2)$ -equivariant Mahowald invariants of powers of certain Euler classes in the  $RO(Pin(2))$ -graded equivariant stable homotopy groups of spheres. The proof analyzes maps between certain finite spectra arising from  $BPin(2)$  and various Thom spectra associated with it. To analyze these maps, we use the technique of cell-diagrams, known results on the stable homotopy groups of spheres, and the  $j$ -based Atiyah-Hirzebruch spectral sequence.

This is joint work with Mike Hopkins and XiaoLin Danny Shi. This talk provides the homotopy theory required by the first talk but will not depend upon it.

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