Algebraic Topology Seminar

Leanne Merrill
of University of Oregon will be speaking on

Algebraic $v_n$ self maps at the prime 2
on Tuesday, November 08 at 4:30 pm in
Eckhart 203

A central question of algebraic topology is to understand homotopy classes of maps between finite cell complexes. The Nilpotence Theorem of Hopkins-Devinatz-Smith together with the Periodicity Theorem of Hopkins-Smith describes non-nilpotent self maps of finite spectra. The Morava K-theories $K(n)_*$ are extraordinary cohomology theories which detect whether a finite spectrum $X$ supports a $v_n$-self map. Such maps are known to exist for each finite spectrum $X$ for an appropriate $n$ but few explicit examples are known. Working at the prime 2, we use a technique of Palmieri-Sadofsky to produce algebraic analogs of $v_n$ maps that are easier to detect and compute. We reproduce the existence proof of Adams’s $v_4^4$ map on the Mod 2 Moore spectrum, and work towards a $v_2^i$ map for a small values of $i$.

There will be a pretalk at 3pm.

For information, write to Zhouli Xu at xu@math.uchicago.edu