Topology Seminar

Agnes Beaudry

of University of Chicago will be speaking on

The Chromatic Splitting Conjecture at $n = p = 2$

on May 4 at 4:30 in
MIT Room 2-131

In its strongest form, the chromatic splitting conjecture gives a precise description of the homotopy type of $L_1 L_{K(2)} S$, which has been shown to hold for $p \geq 5$ by Hopkins and for $p = 3$ by Goerss, Henn and Mahowald. In this talk, I will explain why this description cannot hold at the prime $p = 2$. More precisely, let $V(0)$ be the mod 2 Moore spectrum. I will give a summary of how one uses the duality resolution techniques to show that $\pi_k L_1 L_{K(2)} V(0)$ is not zero when k is congruent to 5 modulo 8. I will explain how this contradicts the decomposition of $L_1 L_{K(2)} S$ predicted by the chromatic splitting conjecture.