

# Topology Seminar

**Barry Walker**

of Northwestern University will be speaking on

## Orientations and $p$ -adic analysis

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

Ando constructed power operations for the Lubin-Tate cohomology theories using the theory of finite subgroups of a formal group. Moreover, he was able to produce a necessary and sufficient condition for a complex orientation of these cohomology theories to be compatible with the power operations. This result concerns the stable homotopy category of spectra. However, the Lubin-Tate spectra of Morava are very rigid objects. Using ideas of Ando, Hopkins and Rezk, we can classify those orientations of complex K-Theory that are compatible with Ando's power operations, but on the point set level. In this talk, we will show the equivalence of these two descriptions for complex  $p$ -adic K-Theory. To achieve this goal, we use the language of Bernoulli numbers attached to a formal group law and their relationship with distributions on a  $p$ -adic Lie group. Many of these tools were developed by N. Katz and J. Tate.