

# Topology Seminar

**David Lee**

of MIT will be speaking on

## On the $p$ -local homotopy type of truncated Brown—Peterson spectra

on April 14 at 4:30 in  
MIT Room 2-131

It is a result of Adams and Priddy that  $BSU$  admits a unique infinite loop space structure after localization at a prime  $p$ . On the way to proving this statement, they prove that the  $p$ -localized connective complex  $K$ -theory spectrum  $ku_{(p)}$  is characterized by its  $\mathbb{F}_p$ -cohomology as a Steenrod module. I will talk about a generalization of this part to truncated Brown—Peterson spectra  $BP\langle n \rangle$  at odd primes, which can be thought of as higher chromatic analogues of the connective complex  $K$ -theory. In particular, since the  $\mathbb{F}_p$ -cohomology depends only on the  $p$ -completion, a part of this result is that we can recover the  $p$ -local homotopy type of  $BP\langle n \rangle$  from its  $p$ -completion. Finally, I will describe some applications and open questions, including the status of the problem at  $p = 2$ .

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