

## Algebraic K-Theory Seminar

### *Lie algebras and $v_n$ -periodic spaces*

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**Abstract:** I will discuss a homotopy theory obtained from that of pointed spaces by inverting the maps inducing isomorphisms in  $v_n$ -periodic homotopy groups. The case  $n = 0$  corresponds to rational homotopy theory. In analogy with Quillen's results in the rational case, I will outline how this  $v_n$ -periodic homotopy theory is equivalent to the homotopy theory of Lie algebras in the category of  $T(n)$ -local spectra. One can also compare it to the homotopy theory of cocommutative coalgebras in the category of  $T(n)$ -local spectra. For  $n > 0$  these theories are no longer equivalent; the failure can be expressed in terms of the convergence of the Goodwillie tower of the identity in periodic homotopy.

Monday, April 23 at 1:00 PM in SEO 1227