Topology Seminar

Gijs Heuts

of University of Utrecht will be speaking on

Lie algebras and v_n-periodic spaces

on April 9 at 4:30 in
MIT Room 2-131

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 $T(n)$-local spectra. One can also compare it to the homotopy theory of cocommutative coalgebras in $T(n)$-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.