Title:
Unstable periodic homotopy theory

Abstract:
While homotopy groups of spaces are usually not computable in their entirety, rational homotopy groups are much more computable. On the other hand, they loose all torsion in the homotopy groups. On this torsion, there acts an operator $v_1$ and it turns out that the $v_1$-periodic homotopy groups are again quite computable. One can continue and define $v_n$-periodic homotopy groups for all $n$. During the talk I will in particular present joint work with Barthel and Heuts that implies that this process does not loose information; more precisely, a map of simply-connected finite complexes that induces $v_n$-periodic equivalences for all $n$ is already an equivalence.