Topology Seminar

Shay Ben Moshe

of Hebrew University will be speaking on

Higher Semiadditive Algebraic K-Theory and Redshift

on March 13 at 4:30 in
MIT Room 2-131

The redshift conjecture of Ausoni-Rognes says that there is a strong interaction between algebraic K-theory and the chromatic filtration on spectra. Namely, that if a ring spectrum R is of chromatic height n, then $K(R)$ is of chromatic height $n + 1$. Hopkins-Lurie, followed by Carmeli-Schlank-Yanovski, showed that the category of spectra of height n is higher semiadditive, that is, colimits and limits indexed by pi-finite spaces are canonically equivalent. In this talk we will describe higher semiadditive K-theory, a variant of algebraic K-theory that takes higher semiadditivity into account. We will explain how semiadditive methods allow us to show that it satisfies a form of the redshift conjecture. We will also explain some of its connection to chromatically localized K-theory. Relevant background on algebraic K-theory, chromatic homotopy and semiadditivity will be explained. This work is joint with Tomer Schlank.