1056-55-1616 **Eric L Finster*** (ericfinster@gmail.com), University of Virginia, Department of Mathematics, PO Box 400137, Charlottesville, VA 22904. *Stabilization of Homotopy Limits.*

This talk will outline the major results of my thesis work, which describes a natural filtration, inspired by Goodwillie's Calculus of Functors, of the stable homotopy type of the space $\mathrm{holim}_{\mathcal{C}} F$ for a given functor $F : \mathcal{C} \to \mathcal{T}op$, where $\mathcal{C}$ is some small indexing category. More concretely, we construct a sequence of categories $\mathcal{C} = \mathcal{C}_1 \subseteq \mathcal{C}_2 \subseteq \mathcal{C}_3 \cdots$ derived from $\mathcal{C}$ such that, under favorable conditions, we have an equivalence

$$\Sigma^\infty \mathrm{holim}_{\mathcal{C}} F \simeq \mathrm{holim}\,(\cdots \to \mathrm{holim}_{\mathcal{C}_2} \Sigma^\infty F \to \mathrm{holim}_{\mathcal{C}_1} \Sigma^\infty F)$$

When F is constant, we recover the results of G. Arone on the derivatives of the functor $\Sigma^\infty \mathrm{Map}(K, X)$, whereas for $\mathcal{C}$ discrete we recover the classical Snaith splitting of a product. The spectral sequence obtained from this filtration can be considered as an alternative to the Bousfield-Kan spectral sequence of a cosimplicial space. (Received September 22, 2009)