

Topology Seminar

Luis Pereira

of MIT will be speaking on

Goodwillie Calculus and Algebras over a Spectral Operad

on April 29 at 4:30 in
MIT Room 2-131

The overall goal of this talk is to apply the theory of Goodwillie calculus to the category $Alg_{\mathcal{O}}$ of algebras over a spectral operad. Its first part will deal with generalizing many of the original results of Goodwillie so that they apply to a larger class of model categories and hence be applicable to $Alg_{\mathcal{O}}$. The second part will apply that generalized theory to the $Alg_{\mathcal{O}}$ categories. The main results here are: an understanding of finitary homogeneous functors between such categories; identifying the Taylor tower of the identity in those categories; showing that finitary n -excisive functors can not distinguish between $Alg_{\mathcal{O}}$ and $Alg_{\mathcal{O}_{\leq n}}$, the category of algebras over the truncated $\mathcal{O}_{\leq n}$; and a weak form of the chain rule between such algebra categories, analogous to the one studied by Arone and Ching in the case of Spaces and Spectra.