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**Speaker:** Anibal Medina  
University of Notre Dame

Tuesday, September 13, 2016

3:00 PM

258 Hurley Hall

**Title:** A non-linear Dold-Kan Theorem and Algebraic Surgery

**Abstract:**

The normalized chain functor from simplicial sets to chain complexes of abelian groups, admits a factorization by the free functor to simplicial abelian groups followed by the Dold-Kan functor to chain complexes. The Dold-Kan Theorem states that this second functor is full and faithful. The first part of this talk will focus on the construction of a new factorization using a full and faithful functor and a forgetful one. The proposed answer uses the category of chain complexes enriched with an E-infinity coalgebra structure. The second part of this talk will use the category of comodule over such coalgebras in the study of topological manifold structures on a given homotopy type.