

**Sam Raskin: QCoh and IndCoh in derived algebraic geometry  
(preparatory talk for Gaiitsgory's mini-course)**

Abstract: In the theory of derived categories of coherent sheaves on varieties, one must grapple early on with the difference between perfect complexes and coherent complex (i.e., bounded complexes with coherent cohomologies). If one works instead with categories admitting infinite direct sums, the terms take on new names, and this becomes the distinction between QCoh and IndCoh.

In this talk, we will give an introduction to QCoh and IndCoh. In particular, we will explain how IndCoh is the natural framework for Grothendieck's interpretation of Serre duality, and the role it plays in the theory of D-modules.