

## Paolo Stellari: **Uniqueness of dg enhancements in geometric contexts and Fourier--Mukai functors**

The quest for a (possibly unique) lift of exact functors and triangulated categories to dg analogues is highly non-trivial and rich of subtle aspects, already in geometric contexts. This is made clear by the most recent developments concerning Fourier--Mukai functors, which will be reviewed in this talk. On the other hand, it was a general belief and a formal conjecture by Bondal, Larsen and Lunts that the dg enhancement of the bounded derived category of coherent sheaves or the category of perfect complexes on a (quasi-)projective scheme is unique. This was proved by Lunts and Orlov in a seminal paper. In this talk we will explain how to extend Lunts-Orlov's results to several interesting geometric contexts. Namely, we care about the category of perfect complexes on noetherian separated schemes with enough locally free sheaves and the derived category of quasi-coherent sheaves on any scheme. This is a joint work with A.Â Canonaco.