Ragnar-Olaf Buchweitz (Toronto)
The Koszul Complex blows up a point

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We will report on the following results from joint work with Thuy Pham:
(1) The endomorphism ring of the syzygy modules in the tautological Koszul complex is of finite global dimension and its derived category is equivalent to that of the affine space blown up in a point.
(2) For any Veronese embedding of a projective space the cone over it admits a noncommutative desingularization in that its canonical small desingularization, the total space of the embedding ample line bundle, has its derived category equivalent to that of an algebra.

Time permitting, we will also discuss in general the question of existence of tilting objects on affine bundles and how it gives rise to potentially new invariants and may help address some classical open problems.

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