

University  
of Regina

Mathematics  
and  
Statistics

Wednesday  
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3:30 - 4:30  
College West  
307.20

# Seminar 1 of 2

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## The McKay Correspondence and Noncommutative Algebraic Geometry

The classical McKay correspondence relates maximal Cohen-Macaulay modules on Kleinian singularities to representations of the finite subgroups of  $SL(2, \mathbb{C})$  and to the exceptional divisors in the desingularization. It can also be interpreted (Kapranov-Vasserot 1999) as an algebraic description of the derived category of coherent sheaves on the desingularization.

This approach has been vastly generalized, first by Bridgeland-King-Reid (2001), van den Bergh (2004), then by D.Orlov (2009) and most recently by Amiot-Iyama-Reiten (2012). In this talk we present the toolkit used in this approach.

