

Algebra and Geometry Seminar

Speaker: Gregory G. Smith (Queen's University)

Title: Cohomology of toric vector bundles.

Abstract: A toric vector bundle is a vector bundle on a toric variety equipped with a torus action that is compatible with the canonical action on the underlying variety. We construct a complex of modules over the Cox ring which simultaneously encodes the cohomology of a toric vector bundle and many of its twists by line bundles. Beyond the improved computational efficiency, this approach leads to some new insights into virtual resolutions and vanishing theorems. This talk is based on joint work with Michael Perlman (University of Minnesota).