**STEVEN V SAM**, Massachusetts Institute of Technology
*Sheaf cohomology and non-normal varieties*

The technique of collapsing homogeneous bundles, introduced by Kempf and refined by Lascoux and Weyman, has been successful for describing the equations, and sometimes syzygies, of various classes of varieties with rational singularities, such as determinantal varieties and type A nilpotent orbit closures. Trying to use it on non-normal varieties provides many technical hurdles. I will explain some examples where it can be used, and what they might reveal about a possible general framework, including hyperdeterminantal varieties (the supports of tensor complexes, see Berkesch's talk), Kalman varieties (introduced by Ottaviani–Sturmfels), and the non-normal nilpotent orbit closure in the Lie algebra $\mathfrak{g}_2$.