Meeting: 998, Houston, Texas, SS 19A, Special Session on Algebraic Geometry

998-14-372 **Leah Gold**, **John Little** and **Hal Schenck*** (`schenck@math.tamu.edu`), Mathematics Department, Texas A&M University, College Station, TX 77843. *The Cayley-Bacharach theorem and coding theory.*

In recent work, J. Hansen used cohomological methods to find a lower bound for the minimum distance of an evaluation code determined by a reduced complete intersection in the projective plane. We generalize Hansen's results to an arbitrary projective space; we also show that the hypotheses in Hansen's work may be weakened. Our result follows from bounds on evaluation codes and the Cayley-Bacharach Theorem.

(joint work with Leah Gold (Texas A&M) and John Little (Holy Cross). (Received March 02, 2004)