1086-05-2087 **Sarah Anderson** and **Jeong-Hyun Kang***, Department of Mathematics, University of West Georgia, Carrollton, GA , and **Hiren Maharaj**. *Codes with bounded distances, and their applications to distance graphs.*

It has been studied in coding theory to find the maximum size of binary codes of length n with minimum distance d under Hamming distance. In this talk, we study binary codes when the distance has a restriction of maximum distance as well. Various upper bounds including an exponential upper bound have been established using a result of Kabanjanskii–Levenštein and Jung's theorem in Combinatorial Geometry. We show applications of these coding theoretic results to a distance graph on n-dimensional integer grid to obtain various lower bounds on chromatic numbers. This is a joint work with S. Anderson and H. Maharaj. (Received September 24, 2012)