1147-05-919   **Cosmin Pohoata*** (`apohoata@caltech.edu`), 120 West Wilson Ave, Apt 1448, Glendale, 91203.
On sets of points with prescribed pairwise distances.

A subset S of a metric space M is called an s-distance subset in M if the pairs of points in S determine s distinct positive distances $d_1, \ldots, d_s$, which are all realized. There are many well-known problems in extremal combinatorics which ask about or reduce to upper bounding the size of S, under various additional hypotheses. In this talk, we discuss the case when M is $\mathbb{R}^d$ (with the usual Euclidean distance metric), $\{0,1\}^n$ (with the usual Hamming metric), and connections between these and the recent Croot-Lev-Pach method from additive combinatorics. (Received January 29, 2019)