Codes and Designs over GF(q)

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In this talk we discuss connections between two classes of combinatorial objects, namely error-correcting codes and block designs, which has been an active topic of research for many decades. In special cases, the blocks of a design coincide with the supports of codewords of some fixed Hamming weight.

We consider two interesting generalizations of these objects, that is, rank metric codes and subspace designs, both of which may be regarded as q-analogues of the original objects. We outline some connections between these structures and propose some open problems.