Trails of triples in Steiner triple systems

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(Joint work with Charles Colbourn and Chengmin Wang)

A Steiner triple system consists of a set of points and a collection of triples of points such that every pair of points occurs in exactly one triple. In this talk I will discuss the problem of finding a Steiner triple system whose triples can be ordered in such a way that every m consecutive triples are disjoint. This obviously has consequences for the problem of finding a Steiner triple system whose triples can be partitioned into partial parallel classes (sets of pairwise disjoint triples) of specified sizes. These two problems have applications to the analysis of erasure codes for disk arrays and to that of codes for unipolar communication.