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On Progressive Dinner Parties and Related Combinatorial Structures

Julian Regan asked if it possible to design a progressive dinner party that involves a number of couples, having each course of a three-course meal at a different person's house, with three couples at each course, every couple hosting once and no two couples meeting more than once. This problem can be generalized to a k course meal with k couples at each course. The number of couples, say v , must be divisible by k . We can solve this problem for almost permissible values of v when $k \leq 13$. In this talk, I will discuss solution techniques, as well as connections with resolvable symmetric configurations and resolvable Golomb rulers. Part of this talk is based on joint work with Marco Buratti.