GORDON WILLIAMS, University of Alaska Fairbanks
On maniplexes with co-skeleton K_4

This talk will discuss recent progress on a classification problem in the theory of maniplexes, specifically, the classification of rotary and reflexible maniplexes in rank 4 whose duals have one-skeletons are the graph K_4.

A maniplex is a generalization of the graph theoretic map to higher dimensions, much in the way abstract polytopes are a combinatorial abstraction of polyhedra and convex polytopes. They are studied via similar mechanisms, in particular through their automorphism and connection groups. Rotary and reflexible maniplexes form the two most symmetric kinds of maniplexes, and their study and classification plays a role similar to the classification of chiral and regular abstract polytopes do in the study of abstract polytopes.

This is joint work with Steve Wilson.