

COMBINATORIAL POTLATCH ONE

Date: Saturday, 27 February 1982

Place: University of Washington

Location: Padelford C-28

Schedule

11:00 a.m. Branko Grünbaum

12:00 noon Lunch

2:00 p.m. C. C. Lindner

Branko Grünbaum "Edge-transitive planar graphs"

Abstract

Finite planar graphs for which combinatorial automorphisms (or else - homeomorphic symmetries as embedded graphs) act transitively on the edges have been characterized previously by a number of authors. Only nine such graphs are 3-connected, and their determination relies on several fortuitous coincidences. A discussion of this enumeration will be followed by a consideration of the corresponding question for infinite planar graphs; a solution will be presented for locally finite 3-connected graphs. Here we do not get the "lucky breaks" of the finite case, making more intricate arguments necessary and leading to some unexpected phenomena. Various related open problems will be presented as well. The talk is based on joint work with G. C. Shephard.

C. C. Lindner "How to embed a partial Steiner triple system"

Abstract

In 1969, Christine Treash proved that a partial Steiner triple system can always be embedded in a finite Steiner triple system. Unfortunately, the containing triple system in Treash's Theorem is quite large. Just how large is not clear because of the proof technique. The main purpose of this talk is to provide a simple and small embedding for partial triple systems. In particular, it is shown that a partial triple system on v points can always be embedded in a Steiner triple system of order u for every $u \geq 6v + 1$, $u \equiv 1$ or $3 \pmod{6}$.