Combinatorics Seminar

Friday June 14, 2013 at 2PM

Room MS.04

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(Davidson College)

Steinberg's Conjecture, the Bordeaux Coloring Conjecture and Near-Coloring

An important result in the theory of graph coloring is Grotzsch's theorem, which states that every triangle-free planar graph is 3-colorable. A famous related question is due to Steinberg and states that any planar graph without 4- or 5-cycles is 3-colorable. There has been considerable recent interest in trying to prove this conjecture.

In this talk, we will discuss some of the recent progress made towards proving Steinbergs conjecture and discuss recent joint work with Ken-ichi Kawarabayashi that planar graphs with no 5-cycles, 6-cycles or intersecting triangles are 3-colorable.

In addition, we discuss related senior thesis based on near-coloring with Davidson student Kyle Yang.

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