

# Hadwiger's conjecture for quasi-line graphs

*Date* Tuesday, April 15

*Time* 4 pm

*Location* 622 Math

*Abstract:* Hadwiger's conjecture states that if a graph is not  $t$ -colorable then it contains the complete graph on  $t + 1$  vertices as a minor. The case  $t = 4$  is equivalent to the four color theorem and the case  $t=5$  was proved by Robertson, Seymour, and Thomas with the use of the four color theorem. For  $t > 5$ , the conjecture remains open. Reed and Seymour have also proved that Hadwiger's conjecture holds for line graphs.

A graph is a quasi-line graph if the neighbor set of every vertex is the union of two cliques. The class of quasi-line graphs is a proper superset of the class of line graphs. In this talk I will outline the proof of Hadwiger's conjecture for quasi-line graphs, an extension of the result of Reed and Seymour. The proof uses a structure theorem from a recent work of Chudnovsky and Seymour. At the end of the talk I will discuss the progress that has been made on Hadwiger's conjecture for claw-free graphs.

This is joint work with Maria Chudnovsky.