PIMS 10th Anniversary Lecture Series 2007 Simon Fraser University **PAUL SEYMOUR** Princeton University August 31, 2007

(Reception at 2:00 p.m., talk at 2:30 p.m.)

Structure Theorems in Graph Theory



Abstract: Fix a graph *H*. What is the most general graph that does not contain *H*? In other words, how do we explicitly construct all the graphs that do not contain *H*?

To begin to make this precise, we have to say what "contain" means; we have in mind either minor containment, or induced subgraph containment. But what do we mean by an "explicit construction" of a class of graphs?

We give some examples, and describe some connections and differences between the two containment relations, and discuss several open questions in the area. There will be no detailed proofs, and very little knowledge of graph theory will be assumed.

Lecture held in 1430 (Segal Centre) SFU Harbour Centre 515 W. Hastings St., Vancouver, B.C.

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