Applied Mathematics

McGill Applied Mathematics Seminar Series

November 11, 2002

Prof. Bruce Reed

School of Computer Science, McGill

Title: "Rooted Routing"

Monday November 11, 2002 **Time: 2:35 pm** **Room: Burnside 1205**

Coffee and refreshments will be served after the seminar

Abstract: Since the dawn of civilization, mankind has been interested in finding ways of getting from place to place. The Romans built roads, Moses parted the waters, Dorothy clicked her heels (cf. the Wizard of Oz), mathematicians settle for studying graphs. Graphs are the simplest possible model for studying connectivity. They consist of a set of points and a relation indicating which pair of points are adjacent. Classical Connectivity theory for graphs has led to results which are applicable not just to routing through networks, but also in a host of other areas. Indeed this theory is one of the cornerstones of combinatorial optimization. We present a new way of looking at connectivity in graphs which seems to be almost as fruitful. This is a survey talk, overviewing a theory which was developed mainly by N. Robertson and P. Seymour. It is directed at a general mathematical audience.

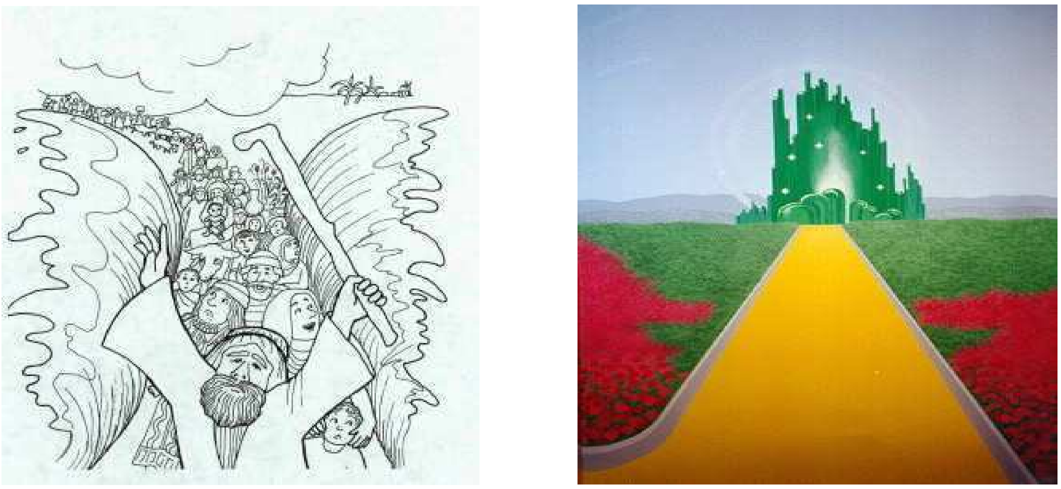

Figure 1: Right: Moses parting waters. Left: Yellow Brick Road from here to there.