

# Math6937 Individual Project

Due: April 12, 2010

## 1 General requirements and expectations

**March 22, 2010:** progress report due. In addition to the background of the project and a short description of the problem, you should have narrowed down the scope to specific aspects of the project. For example, you should have clearly identified which aspect(s) of the media coverage to consider and the relevant mathematical models. It should also outline the analysis and computations to be performed. The final report is due on **April 12, 2010**, which should be properly type-setted by  $\text{\LaTeX}$ , following the structure of The Guide for Technical Writing. The relevant materials for this project are the presentation by J. Heffernan and the the research paper by Heffernan et al. (J. Royal Soc. Interface, vol 2, pp. 281-293, 2005).

## 2 Possible topics

The main focus for the individual project is to model the effect of media coverage on the secondary infection of an epidemics by computing the basic reproduction number. This could be done by examing a combination of the following factors: media coverage and social behavior including travel, media coverage and vaccination, quarantine, etc. You could also explore the possibility of including network effects in term of social interaction, or effects of air travel and the impact of media coverage on air travel. You should develop computer codes to perform numerical simultions.