

Undergraduate Math Club

Winter 2007

2nd floor Nesbitt Common Room

Thursday, January 11, 4:10-5:00pm

(free pizza and pop, as always)

Schelling's Segregation Model

Timothy McQuade

Abstract

Game theory studies the decisions people make in social situations given their own personal preferences and the resulting outcomes. One question game theorists have tried to analyze is why segregation exists in modern society. We will begin by looking at a model developed and simulated by Thomas Schelling, in which “weak” incentives to live with like individuals often lead to relatively high levels of segregation. We will then formalize Schelling’s model in a perturbed Markov environment. We will show that the only stochastically stable states are the segregated states both when individuals have preferences as described by Schelling and when individuals have strict preference for diversity. I assume no prior knowledge and will cover all necessary theory about Markov processes.