Title: Loss of Efficiency Due to Oligopolistic Competition in a Market for Differentiated Products

Abstract: This talk will present an overview of how competition in an oligopoly market where several firms compete through quantities or prices, affects the overall "efficiency" in the system. We consider a setting where more than two firms are competing on differentiated products that are gross-substitutes or complements. We study the loss of efficiency using two measures, (i) profit loss from the firms' perspective due to competition (i.e., comparison of the total profit in the industry between centralized and decentralized settings) for Bertrand (price-setting) competition and for Cournot (quantity-setting) competition, (ii) loss of total surplus in the system when both consumers and firms are taken into account (i.e. comparison of firms' and consumers' surplus when firms compete versus a setting where a social planner optimizes the total surplus in the system). Our goal is to understand how the presence of competition affects the overall profit as well as the total surplus in the industry and what the key drivers of the inefficiencies that arise due to competition are.

We first discuss a setting where each firm is selling a single product and then generalize to a setting where each firm sells several products and is faced with a variety of constraints on the prices or quantities of the products it offers. We provide general bounds that are independent of the constraints each firm faces and as a result, apply to a large class of settings. Our research to date suggests that the number of firms competing in the market, the number of products produced in the market as well as the "market power" of each firm (in terms of how much they can each affect the total demand in the market with their decisions) play an important role.

(aspects of this work are joint with Amr Farahat and Jonathan Kluberg)