New Approaches for Dynamic Oligopoly Models

Dynamic oligopoly models are used in industrial organization and the management sciences to analyze diverse dynamic phenomena such as investments in R&D, advertising, or capacity, the entry and exit of firms, learning-by-doing, and dynamic pricing. The applicability of these models has been severely limited, however, by the curse of dimensionality involved in the Markov perfect equilibrium (MPE) computation. In this talk we provide an overview of a research agenda that introduces new computationally tractable frameworks for dynamic oligopoly models that overcome the computational complexity involved in computing MPE. The bulk of the talk will cover the following paper that introduces “moment-based Markov equilibrium” to study dynamics in concentrated industries. Time permitting we will also discuss previous and more recent work. Overall, our novel approaches open the door to study new issues in industry dynamics.