Department of Economics
2025-2026
Seminar Series

Monday, Sep 29, 2025
12:30 PM - 1:50 PM
SBS, Room N603

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Ohio

Identification and Estimation of Continuous-Time Dynamic Discrete Choice Games

Abstract: This paper considers the theoretical, computational, and econometric properties of continuous time dynamic discrete choice games with stochastically sequential moves, introduced by Arcidiacono, Bayer, Blevins, and Ellickson (2016). We consider identification of the rate of move arrivals, which was assumed to be known in previous work, as well as a generalized version with heterogeneous move arrival rates. We re-establish conditions for existence of a Markov perfect equilibrium in the generalized model and consider identification of the model primitives with only discrete time data sampled at fixed intervals. Three foundational example models are considered: a single agent renewal model, a dynamic entry and exit model, and a quality ladder model. Through these examples we examine the computational and statistical properties of estimators via Monte Carlo experiments and an empirical example using data from Rust (1987). The experiments show how parameter estimates behave when moving from continuous time data to discrete time data of decreasing frequency and the computational feasibility as the number of firms grows. The empirical example highlights the impact of allowing decision rates to vary.

All in-person seminars will be held in the Social and Behavioral Sciences Building, Room N603. For additional information, contact the seminar organizers: Profs. Jonathan Becker and Lorenz Ekerdt. Visit our webpage for additional information: stonybrook.edu/economics.

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