

# Industrial & Systems Engineering Seminar

**Wednesday, October 27, 2010**

3:15 PM – Refreshments before the seminar

3:30 PM – Graduate Seminar

**Mechanical Engineering Room 4125 A & B**



## *Self-Equalizing Headways Reduce Bus-Bunching*

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### **Professor Don Eisenstein**

Professor of Operations Management  
University of Chicago  
Booth School of Business

The main challenge for an urban bus system is to maintain constant headways between successive buses. Most bus systems try to adhere to a schedule, but the natural dynamics of the system tends to collapse headways so that buses travel in bunches. We propose a method of coordinating buses that abandons the idea of a schedule and any a priori headway and instead allows equal headways to emerge spontaneously. We also report on the implementation of our scheme for a bus route in Atlanta.

**BIO:** Don Eisenstein is a Professor of Operations Management at the University of Chicago Booth School of Business, where he has been on the faculty since 1992. He teaches courses in Service and Operations Management in the full, part-time, and executive MBAs programs. Professor Eisenstein holds a B.S. in both Engineering Management and Mathematical Science from Southern Methodist University, and a M.S. and Ph.D. in Operations Research from The Georgia Institute of Technology. His research interests are in the modeling and improvement of operational systems. The focus of his research investigates how to organize systems to make them self-organize, or automatically tend toward a configuration of balance and efficiency. This work has led to improvements to transit systems, manufacturing lines, order picking systems, and service operations. Professor Eisenstein has also worked with the city of Chicago to reengineer the distribution system for the public schools, and improve its refuse collection system. His research has appeared in leading academic journals.

**FOR MORE INFORMATION ON DR. EISENSTEIN'S RESEARCH, please visit:**

<http://faculty.chicagobooth.edu/donald.eisenstein/research/>