Department of Mathematical Sciences

Seminar in Stochastic Systems

Professor Urken

Department of Social Science
Stevens Institute of Technology

Error-Resilient Collective Choice

Wednesday, February 9, 2005
3:30 pm
Pierce 218

Abstract: When voting procedures produce collective outcomes on the basis of incomplete and imperfect information that would be produced if voting information were perfect and complete, the collective outcomes are error-resilient. These error-resilient collective outcomes (ERCOs) will not be changed by breakdowns in network communications or decision making errors. This talk presents the results of Monte Carlo simulations that identify the conditions under which ERCO efficiency can be maximized and provide insight into how long to wait and how much voting information to gather before making an inference about a collective decision. Future theoretical and empirical research opportunities will be discussed.

Arnold B. Urken is a Professor of Political Science at Stevens Institute of Technology. He has done historical, analytic, and experimental studies in voting theory. These studies include archival research in the French Academy of Sciences and other collections, translation and analysis of Condorcet's theoretical ideas, human subject experiments and Monte Carlo simulations. His research also includes theoretical and applied studies of computer-mediated voting in computer networking environments including applications of voting methodology to solve problems in computer science. He has served as a consultant on voting security standards in industry and international standards committees. Currently he is conducting an NSF-sponsored analysis of the potential impact of the development of"type-safe" transactions on problems of privacy, security, and reliability in computer-mediated elections. He is also experimenting with mobile collective decision tasks in Stevens' Wireless Network Security Laboratory. Dr. Urken is a co-founder of Multilogic Systems, where he co-authored a pending patent on collective decision systems and methodologies. He served in U.S. Army Intelligence and taught strategy at the JFK Center for Military Assistance.

Refreshments will be served at 3:15 pm.
For more information contact Barbara Moh at bmoh@stevens.edu or call 201-216-5449.