

Department of Information and Systems Management
School of Business and Management
The Hong Kong University of Science and Technology

Seminar Announcement

*Equilibrium and optimal arrival patterns to a server
with opening and closing times*

by

Professor Refael Hassin

Department of Statistics and Operations Research

Tel Aviv University

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4:00 – 5:00 pm

Room 4379, ISMT Conference Room

~~~~~ All interested are welcome ~~~~~

**Abstract**

The majority of models studied by queuing theory are non-stopping. However, in real life many service systems work in a noncontinuous manner. We consider a single server system, which has opening and closing time and uses First-Come First-Serve discipline. The service durations are exponentially distributed and the total number of arrivals is a Poisson random variable. Naturally each customer wishes to minimize his expected waiting time. The process of choosing an arrival time is presented as a (non-cooperative) multi-player game. The goal is to find a Nash equilibrium game strategy. Glazer and Hassin in (1983) considered this model allowing arrivals before opening time. We study the effect of forbidding early arrivals on the expected waiting time in equilibrium. We also approximate the solution which maximizes social welfare (this is not an equilibrium solution) and compare it to the equilibrium solution. Finally, we consider further restrictions on the arrival instants and show that by this approach it is possible to achieve significant reductions in the waiting time. This is a joint work with Yana Kleiner.

**Biography**

Refael Hassin graduated from Yale University in 1978 and since then he is on the faculty of Tel Aviv University. His research area is Operations Research and in particular Combinatorial Optimization and Strategic behavior in queueing systems. On the latter subject he wrote a book (co-authored with Moshe Haviv) published in 2003. He has published about 120 papers.