

SEEDS

Engineering Lecturer Series

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Dr. Hayriye Ayhan

Thursday, September 17, 2009

MEA 202

4:00–5:00 PM

“Queuing Networks with Cross-Trained Servers”

This talk focuses on developing dynamic server assignment policies in queuing systems with cross-trained servers. Most organizations now believe that it is important to have cross-trained workers. However, it is hard to determine how to best utilize this cross-trained workforce to maximize performance in terms of throughput, sojourn time, and work in process. We consider a system of finite queues and study how servers should be assigned dynamically to stations in order to obtain optimal (or near-optimal) throughput. We assume that the travel times between stations are negligible and each server can work only on one job at a time. Moreover, several servers can work together on a job and the servers may gain or lose efficiency when they collaborate. Thus, servers can work more or less effectively in teams than on their own. Our objective is to determine how the optimal dynamic server assignment policy depends on how well the servers work together. This is a joint work with Sigrun Andradottir and Douglas G. Down.

There will be a mentoring event immediately following this event (5:00 –7:00 PM) By invitation only. Food will be served at this event. There will be a question and answer session so please bring any career related questions with you. This mentoring event will provide you with an opportunity to speak informally with a great scientist and mentor.

Dr. Hayriye Ayhan is an Associate Professor in the H.Milton School of Industrial and Systems Engineering at Georgia Institute of Technology. Her area of expertise is stochastic processes and applied probability with an emphasis on analysis and control of queuing systems. She has published numerous papers on these topics in a variety of journals in applied probability, operations research and control. Dr. Ayhan is the Secretary and Treasurer of the INFORMS Applied Probability Society and is a past recipient of the NSF Career Award.