

Industrial and Systems Engineering Seminar

Pooling Queues with Work-Averse Servers

Wednesday, April 13

3:15 PM – Refreshments before the Seminar

3:30 PM – Graduate Seminar

Mechanical Engineering Room 4125 A & B



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Contrary to the classical theory of operations management, recent case studies in retail, call centers, and healthcare indicate that pooling queues may not necessarily result in less expected work in process. In this paper, we propose that this phenomenon may arise when servers are work averse and have some discretion over their choice of service capacity. We distinguish two types of work aversion, namely workload aversion and busyness aversion, and show that dedicated configurations yield less expected work in process than pooled configurations when servers exhibit high degrees of workload aversion or low degrees of busyness aversion. We also find that busyness aversion tends to hurt more to the point that it could negate the operational benefits of queue pooling at their highest potential. Overall, our work suggests that service system designers may need to consider the servers' type and extent of work aversion as well as their degree of capacity choice discretion before pooling their workload. [Joint work with Mor Armony and Hummy Song]

BIO: Guillaume Roels is an associate professor of operations management at the UCLA Anderson School of Management. His current research focuses on service management and supply chain management. He has published in various academic journals, including *Management Science*, *Operations Research*, and *Manufacturing & Service Operations Management*. His work on distribution-free inventory management was awarded second place in the 2005 MSOM Student Paper Competition, his work on traffic flow modeling received honorable mention in the 2007 Best Paper in Transportation Science & Logistics Award Competition, his work on contracting for collaborative services was awarded second place in the 2009 Service Science Best Paper Competition, his work on design of co-productive services was awarded first place in the 2013 Service Science Best Paper Competition, and his work on the design of experiential services was a finalist of the 2013 Behavioral Operations Best Paper Award. He also received the Eric and “E” Juline Faculty Excellence in Research Award at UCLA Anderson. Dr. Roels is also an Associate Editor of *Management Science* and *Manufacturing & Service Operations Management*. He frequently acts as referee a wide range of journals and has received several times the Management Science distinguished service award and the MSOM meritorious award for his referee services. At UCLA, he has taught courses on operations management in the full-time and executive MBA programs, as well as in various executive education programs, and he is currently the Faculty Director of the Easton Technology Management Center. He received the George L. Robbins assistant professor teaching award in 2009, the Citibank teaching excellence award in 2010, the “Tough but I will thank you in 5 years” teaching award at Wharton in 2012, and the Executive MBA Outstanding Teaching Award in 2010, 2011, 2013, and 2015, and he was named one of Poets & Quants 2015 Best 40 Business School Professors under 40. He received an MS degree in Management Science from the Catholic University of Louvain, Belgium, and a PhD in Operations Research from MIT.