

2016 FALL METRANS RESEARCH SEMINAR

Wednesday, October 12, 2016
12:00 PM to 1:30 PM

USC – Ralph and Goldy Lewis Hall (RGL) 100

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Supply Chain Consolidation and Cooperation in the Agricultural Industry

Presented by

Maged Dessouky, Professor

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Competition has made supply chain consolidation and cooperation an important strategy within various sectors. We first present an optimization model that determines the consolidation and shipping quantities for each supplier and then design cost sharing mechanisms for freight consolidation in an agricultural supply chain. This cost-sharing mechanism determines the set of suppliers who will participate in the consolidation and their corresponding cost shares. We design this to ensure that every supplier is willing to reveal their preference truthfully and the total consolidation cost incurred is recovered by the allocated costs. Our study shows that our cost-sharing mechanism often yields cost shares that maximize the social welfare of all the suppliers.



Maged Dessouky is a Professor in the Daniel. J. Epstein Department of Industrial and Systems Engineering (ISE) at USC and the Director of the Epstein Institute. He received B.S. and M.S. degrees from Purdue University and a Ph.D. in Industrial Engineering from UC Berkeley. He is area/associate editor of the Transportation Research Part B: Methodological, IIE Transactions and Computers and Industrial Engineering, on the editorial board of Transportation Research Part E: Logistics and Transportation Review, and has served as area editor/associate of the ACM Transactions of Modeling and Computer Simulation and IEEE Transactions on Intelligent Transportation Systems. He is a Fellow of IIE and was awarded the 2007 Transportation Science and Logistics Best Paper Prize.



Wentao Zhang received her B.S. degree from Zhejiang University, China in 2011. She studied in Business Department at University of Vienna, Austria for two years supported by Erasmus Mundus Europe Asia scholarship. She is currently a fourth year Ph.D. student from ISE USC, under the supervision of Prof. Dessouky. Her research interest includes supply chain management, vehicle routing problems, cost-sharing mechanism design for cooperation.